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PATRICK GEDDES IN INDIA



Patrick Geddes in Indore 1919

PATRICK GEDDES IN INDIA

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with an Introduction by

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and a Preface by

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EDITOR'S NOTE

The passages in this book represent a fraction of the writings of Patrick Geddes between 1915 and 1919, drawn from reports that he made on eighteen Indian cities. His work was commissioned both by British Governors and by Indian Rulers. Many more reports are known to have been written, some of which are said to remain, still in typescript, in the pigeon-holes of India.

The first selection of material was made by Dr. H. V. Lanchester. The task was then to choose passages that clearly illustrated the practical application of those town planning principles for which Patrick Geddes stood.

Particular places are not deliberately identified with any particular comment, unless necessary to illustrate the general argument—as in the plans illustrating methods of 'conservative surgery.'

Patrick Geddes wrote as he thought and the actual wording of many passages could only be understood with difficulty, especially after they had been uprooted from their context. With the approval and assistance of Dr. Arthur Geddes, his son, these passages have been edited, but Patrick Geddes's picturesque style has not been wilfully altered.

The illustrations were taken by Anthony Denney, on war service in India, and show that persistent loveliness and vitality Patrick Geddes so much admired.

Association for Planning and Regional Reconstruction.

Jaqueline Tyrwhitt
February 1, 1947

Introduction

LEWIS MUMFORD

THE LIFE AND WORK OF PATRICK GEDDES prefigure the age in which we now live. The tasks that he undertook as a solitary thinker and planner have become the collective task of our generation. Over the terrain that he explored as a scout, a whole army is now moving into position. The projects he put forward but could never execute, precisely because he was so far in advance of the supporting army of administrators, technicians, and architects, are now, at least in part, on the way to realization.

But the very fact that the world has been catching up with the thought of Patrick Geddes has had the ironic consequence of making his bold advances seem less significant than they actually were. Today one needs historic perspective to realize how radical and far-reaching were his departures. People who have never heard Geddes's name are nevertheless carrying out the designs he was the first to lay out for his generation. So his latest biographer, Philip Boardman, has done well to point out that the work of the Tennessee Valley Authority, if it did not stem directly from Geddes's thoughts, is nevertheless a fruit of the seeds he tirelessly scattered abroad, wandering from university to university, from city to city. Geddes's influence is not the less impressive because so much of it, by now, is anonymous. Without any proprietary label, his thoughts go marching on.

There are now scores of studies on the historical and sociological development of cities; but until Geddes began

his first explorations in this field the city itself was not recognized as an important human artifact. The place of cities in the Dewey decimal system of library classification —the minor third figure in the numerical notation—shows what an insignificant part the urban environment occupied at the time Geddes began his studies. Today no competent planner would think of putting forward a comprehensive scheme for city improvement without a preliminary survey of the geology, the geography, the climate, the economic life, and the social institutions of the city and its region. But this commonplace of technique is the direct result of Geddes's advocacy of the civic survey as indispensable to planning: 'Diagnosis before treatment.' Geddes's civic survey of Edinburgh, which reduced Booth's kind of survey to manageable proportions, and introduced elements left out of Booth's empirical house-to-house inquiries, became the model for later surveys.

What is true of town planning is equally true of regional development. Until Geddes applied his sociological insight and his biological knowledge to the region, regionalism was an archaic and backward looking movement, following the patter of nationalism, and paying more attention to a static and isolationist conception of the local community than to a dynamic one which placed the region in the midst of the currents of modern civilization. Just because Geddes respected the old roots of regional culture, he had no interest in limiting its expression to some historic moment of the past: if the roots were alive, they would keep on putting forth new shoots, and it was in the new shoots that he was interested. Few foreign observers have shown more sympathy, for instance, with the religious and social practices of the Hindus than Geddes did; yet no one could have

written more scathingly of Mahatma Gandhi's attempt to conserve the past by reverting to the spinning wheel, at a moment when the fundamental poverty of the masses in India called for the most resourceful application of the machine both to agricultural and industrial life.

As one of the few people who knew and appreciated the work of that pioneer conservationist, George Perkins Marsh, Geddes was able to link the technical and economic developments of regionalism with its historic and social manifestations. He was in full sympathy with the Welsh, the Irish, and the Scottish Renaissance; but he never fell into the isolationist error of regarding a local culture as in any sense complete, final, or self-sustaining. If one part of Geddes's thought and activity was attached to the region, indeed, to the village or the hamlet, another part was attached to the whole planet and to humanity. Geddes was a global thinker in practice, a whole generation or more before the Western democracies fought a global war. In short, one cannot appreciate Geddes's regionalism unless one also appreciates his internationalism, his universalism. This latter fact is what makes the present selection from Geddes's Indian reports particularly apt and timely for the days ahead. What he says about India has a lesson for other lands.

Patrick Geddes's thought had two sides to it. One aspect was systematic and rigorous to an extraordinary degree, it was based upon a cartography of life, mind, and society which he had created to facilitate his own thinking, so that his ideas would be related, in space, time, and function, to the concrete situation from which they were momentarily abstracted—unlike the thought of the specialist which treats the abstraction as if it were self-sufficient. Some of

Geddes's diagrams, like that which correlates folk, work, and place with organism, function, and environment, are fundamental ones; others, which he sometimes took to be equally fundamental, are, perhaps, of a more personal order and less capable of general application. But this side of his work requires special study and discriminating use: much of it repels, at first glance, those who are not familiar with the scope and purpose of Geddes's thinking, and who do not appreciate the soundness of his results.

Very wisely, the present selection emphasizes the other side of Geddes's thought, his insights, his gift for swift and penetrating observation, and the life-wisdom he brought to each fresh situation. The Aristotle and the Socrates equally important in the living personality; but, paradoxically, in things of the spirit, the living flesh of wisdom outlasts the bony skeleton of abstractions; and Geddes the teacher properly takes precedence over Geddes the systematic thinker. In these living fragments from Geddes's sometimes exhaustive town planning reports, one finds Geddes following Bergson's dictum, that the thinker should think as a man of action, and that the man of action should act as if he were a thinker, though that unity of thought and deed was engrained in Geddes's whole philosophy, and owed no debt to his French colleague.

In the actual technique of planning, Geddes was far in advance of his generation. Some of the commonplaces of the most advanced modern practice, such as reducing the number and width of paved streets in residential areas, and turning the land saved into more usable forms of open space, were typical Geddesian innovations: characteristic of the life-economy he preached and practised. On these matters, British planning practice during the last

twenty years, thanks partly to the effect of obsolete by-laws, has unfortunately lagged behind. Just the other day I found, in an otherwise admirable housing estate in Edinburgh, a four lane avenue thrust into the middle of the new scheme: a senseless waste of paving and open space at a point where sound planning would have introduced a single lane and a turn-a-round at the end, and would have utilized the space thus acquired for a garden or an enclosed play-space for the toddlers.

In his Indian plans, Geddes's habitual practice was to reduce the number of street widenings, just as he proposed to reduce the amounts expended upon too elaborate mechanical sanitary facilities. With the money saved he proposed to increase the number of gardens and playgrounds, to plant fruit trees, to retain, in an effectively sanitary state, the existing tanks. This mode of planning challenged the idols of officialdom; it was conceived in terms of primary human needs, not of current business and engineering conventions. Yet such constructive and conservative surgery still needs to be practised in the renovation of Western cities: not least during the immediate process of transition, when every usable house must be kept intact until it can be replaced.

To the townplanner's art, Geddes brought the rural virtues: not merely respect for the land and for agricultural processes; but the patience of the peasant, and the sense that orderly growth is more important than order at the expense of growth. He saw both cities and human beings as wholes; and he saw the processes of repair, renewal, and rebirth as natural phenomena of development. His ideal of the best life possible was always the best that was latent in a particular site and situation, at a particular moment in

the development of a particular family, group, or community: not an abstract ideal that could be imposed by authority or force from the outside. His gifts as a teacher derived from his humility as a learner: for all his knowledge and experience, for all his self-confidence and legitimate pride, for all his impatience of pompous fools, he recognized that the humblest street sweeper might still have something to teach *him*. By the same token, he distrusted all forms of absolutism and regimentation; he was nearer to his oldtime colleague and friend, Peter Kropotkin, than he was to the authoritarian thought of Karl Marx.

In his early reaction against the cult of the state, Geddes anticipated the modern generation's reaction against totalitarianism. The very fact that his thought remains post-Marxian will, perhaps, link him more closely with the oncoming generation who, in both war and peace, have discovered the limitations of military and bureaucratic organizations, no matter how well-meaning and beneficent their purposes may be, and who—without relapsing into a defeatist laissez faire—will seek for counterpoises to the present tendency to over-concentrate power and authority. Geddes's thoughts on political decentralization, on civic responsibility, on voluntary co-operation, and on personal development, all of which are expressed or implied in these Indian reports, sound an even fresher and saner note today than they did at the moment they were uttered.

This is a book, then, not alone for the planner but for the citizen. Although much of Geddes's wisdom has been absorbed and is being applied in modern planning schemes, the drag of the past is a heavy one; and to offset the tendency to fall into wasteful routine procedures, it is useful to go back again and again to the words and the

example of this insurgent prophet and planner, who rejected the fashionable stereotypes of his generation, and who still challenges the fashionable stereotypes of our own. The British housing estates designed during the past generation, though they have often surpassed the rest of the world in their standards of space and building, would wear a happier aspect to-day if Geddes's words on tree planting had been generally heeded; and the present schemes for re-settling industries and people into balanced communities will have a greater prospect of success if the brief paragraph on Folk-planning at the beginning of these selections is read and pondered daily by the responsible officials in charge of this process.

Above all, I would stress the importance and relevance of Geddes's ideas to the task the younger generation now faces in Britain. Geddes bequeathed to them no finalities of dogma and doctrine which could be misused as a substitute for fresh observation, fresh experiment, and fresh thought. Unlike the dated Marxian dogmas, the Geddesian philosophy provides for its own correction and its own replacement. Geddes's motto was Live and Learn.

There is no end to either process; but, if I have read aright the faces of the young in Britain, they are ready to make a new beginning.

Amenia, New York. *September 1, 1946*

Preface

H. V. LANCHESTER

IN OFFERING TO THE PUBLIC TYPICAL EXTRACTS from Professor Sir Patrick Geddes's studies on town planning aspects of life in Indian cities, it seems essential to preface these with a few notes on Geddes himself and on some of the social conditions in India with which he was called on to deal.

Geddes

Everything that Geddes did was characterized by an attitude of mind so individual, that it is of first importance to define his mode of approach. After early and extensive biological studies he diverged into a comprehensive philosophy aiming at the co-ordination of man with his environment which he described as 'the new humanism'. With this aim in view, he became an amateur, in the best sense of the word, of all the arts and sciences, and endeavoured to employ his knowledge in raising the standard of living for all with whom his activities brought him in contact. In this his psychological instinct put him at a great advantage over those who, having every good intention, were not similarly qualified to identify themselves with the mental outlook of varying social and racial types, and he gained their sympathetic support where those not so equipped had failed to secure it.

> 'It was Geddes's personal awakening to the horror of Edinburgh's piled-up slums that drove him to find out experimentally how to transform an old and

long built neighbourhood. In this city, which had been sacked or burned by the "Auld Enemy" on an average once in every sixty years from 1300 to 1603, the citizens, instead of extending their early garden city outwards in the normal medieval way, crowded behind their walls. Building increased not outwards but inwards and upwards until the cultivated "closes" came to be narrow, stinking alleys and the "lands" became tall, many-storied tenements, waterless and without sanitation. The formal extensions of the New Town (1765-1880), the factories of the industrial age, and the rival railways (1845-46) had made matters if anything still worse in the Old Town itself. It was clear that, if the problem of Old Edinburgh could be tackled with success, the structural and human problems of almost any other old city would seem relatively simple.

'Three months after their marriage in 1886, Patrick Geddes and his wife settled in James Court, near Edinburgh Castle. They purchased two or three of what their neighbours called "hooses", each of one or two rooms, making of it all a single flat, opening on the common stair of a six-storey tenement housing some twenty to twenty-five families. They set about to weed out the worst of the houses that surrounded them, and thus widening the narrow closes into courtyards on which a little sunlight could fall and into which a little air could enter upon the children's new playing spaces and the elders' garden plots. The best houses, on the other hand, were restored. Very often the oldest and most historic were the most lastingly built, and lent themselves to economical

repair. In this way a number of notable houses were worthily preserved.' (*A. Geddes*).

These activities in Edinburgh amply justified the decision of Lord Pentland (then Governor of Madras) to invite Geddes to Madras as one exceptionally qualified to advise on the problems involved in the relationship between public improvement and the recognized social standards which often appeared at first sight to be in conflict. This opened up to him his active career in India.

My own first intimate contact with Geddes's activities and his social philosophy was at Ghent in 1913, where he was showing his Cities and Town Planning Exhibition. This Exhibition, which he moved from place to place, was not set up on a fixed pattern. His method was that in each new setting it should show first a series of studies of that town and its surroundings, followed by sections showing parallel or more detailed surveys of planning elsewhere.

Some previous experience of Town Planning in India gave me much to discuss with him when we went out to India together in October 1915, and I soon realised the value of his contribution to a broad humanistic outlook on the social aspects of civic improvement and of the importance of this aspect in dealing with India. I was also able to come to his assistance when the loss of the first Cities and Town Planning Exhibition, which was sunk on its way to India, prompted the formation of one to replace it, early in 1915. This second great Exhibition was shown all over India and is still in existence.

It was an important factor in Patrick Geddes's work that he visualized the historic aspect to an unusual degree and was always on the watch for the good in traditional customs in order to co-ordinate these with the demands of present

day science. These principles cannot be better stated than in Geddes's own words, quoted from *Cities in Evolution*:

> '. . . We must not too simply begin, as do too many, with fundamentals as of communications, and thereafter give these such æsthetic qualities of perspective and the rest as may be, but, above all things, seek to enter into the spirit of our city, its historical essence and continuous life. Our design will thus express, stimulate, and develop its highest possibility and so deal all the more effectively with its material and fundamental needs. We cannot too fully survey and interpret the city for which we are to plan—survey it at its highest in past, in present, and above all, since planning is the problem, foresee its opening future. Its civic character, its collective soul, thus in some measure discerned and entered into, its active daily life may then be more fully touched, and its economic efficiency more vitally stimulated.'

India

In order to appreciate these aspects in India it is necessary to set out as briefly as possible some indications of Indian social life and methods in 1915-17.

The old traditions in India included a number of typical plans for the layout of towns, but few traces were to be seen in any existing city. There are several reasons for this. In the first place, these traditions, which were probably more than 2000 years old, had gradually lapsed, since a settled unity in India was the exception rather than the rule. Sanitary regulations were neglected, encroachments and over-buildings were prevalent, and the older

towns were abandoned as uninhabitable, and were moved to new sites.

Since little of the building was of a substantial character, and but few of the sites were selected with a view to economic advantages, this was comparatively easy. Some were based on military demands, in which case it was more often the fort than the town that retained its place. For example, the old town of Gwalior stood to the north of the rock fortress, but in the eighteenth century the Maratha Army was encamped to the south, two miles away, so the town gradually moved to the camp. To-day, little remains on the old site but a few temples and tombs.

Abandonment in whole or in part is not, however, the greatest difficulty in dealing with the improvement of the Indian town. The lapse of effective local government during several centuries reduced the larger towns to disorderly aggregations of dwellings with inadequate communications and serious congestion in many quarters.

The segregation of caste groups, and the tendency of families to remain together through several generations, are two important factors conducive to this state of affairs. A trade caste occupying a certain quarter is hemmed in by others, and has no other course open to it than to build more intensively. The expanding family is in much the same position, and in both cases this leads to encroachment. We are well aware in our own country of the extent to which land was filched from the streets and other open spaces during the eighteenth and early nineteenth centuries, even without the special inducements mentioned above; so it is easy to imagine what took place on these lines in the east.

A shop or house throws out a verandah in front, then closes it in; and later perhaps puts up another in front of that, besides filling up internal courtyards; and other forms of overbuilding. Only when the street was so narrowed that a single bullock cart began to knock corners off the houses did the process of reducing the highways to a minimum come to an end. An enterprising District Magistrate in Southern India once planted some good roads with palm trees; these have grown to a height of fifty or sixty feet, and many of the trunks are now enclosed in the verandahs or the front rooms of the houses.

The British began by cutting straight roads through the more congested areas, regardless of the protests of those who were displaced; building sites were then allocated wherever they could most easily be found. We wanted straight roads so that detection of encroachments would be easy; but it was an expensive way of going to work, and, of course, unpopular with most of those displaced, as it put upon them the onus of trying to re-settle themselves —often an impossibility.

Much of this work was in the hands of officers not trained for it, who did not realise the sociological aspects of the problem, and whose views on hygiene and sanitation were too largely based on European traditions. European sanitation is not practicable except in the larger cities and industrial centres. Elsewhere water-borne sewage is too costly, even where an adequate supply of water is available; in one case a scheme submitted was estimated to cost twice the value of all the house-building in the town. Water supplies are possible, but not in all cases; often tanks and wells must be relied on (subject to careful supervision to prevent pollution).

The large pools, called 'tanks', generally well constructed, are sometimes reserved for drinking water, though usually used as bathing and washing places. They are an essential feature of the town plan, cooling the air. Too often, however, the authorities, impatient at the polluted state into which they had been allowed to lapse, have filled them in, disorganizing the local economy; instead of going to the root of the problem, the sources of supply, and taking the necessary steps to secure cleanliness.

In one small town there were nine tanks, each fed from the one slightly above it. Their history was that the lowest had been dug first; the town grew around it and polluted it. Another was made up on the upper side of the town and likewise became foul. Six successive ones shared the same fate, and the only one finally considered 'clean' was the newest, at the upper edge of the town. Proper control would have obviated this state of things.

The well-to-do Indian is usually faithful to the courtyard type of house, which he builds by instalments, starting from the street front and extending it according to the demands of his family. Consequently, the site is apt to become too densely covered. This courtyard plan has advantages in a hot climate, giving shade and protection from dust storms—as anyone who has suffered from these in a bungalow can testify. Taking everything into account, however, bungalows are healthier dwellings. A good many Indians are beginning to live in them.

When Europeans first settled in India they found conditions in the cities so unhealthy, noisy, and otherwise distasteful, that they started independent colonies outside. The military occupied 'cantonments', while the officials

and business men lived in 'civil lines'. Land seeming very cheap by Western standards, bungalows could be given several acres apiece. In the 'compound' were housed the large number of servants (plus families) necessary as a result of the caste system, which prevents a man from doing more than one specified kind of work, and women from doing service other than as children's nurses. Only in the south do servants live in separate groups away from their employment; but even this did not affect the general lay-out of the 'compound'. In Madras the largest one had an area of twenty-six acres.

The Geddes Outlook

Bibliography of Extracts

I *Report on the Towns in the Madras Presidency, 1915: Madura (p.91).*

II *Town Planning in Lucknow. A second report to the Municipal Council, 1917 (p.23).*

I TOWN-PLANNING IS NOT MERE PLACE-PLANNING, nor even work-planning. If it is to be successful it must be folk-planning.

This means that its task is not to coerce people into new places against their associations, wishes, and interest—as we find bad schemes trying to do. Instead its task is to find the right places for each sort of people; places where they will really flourish. To give people in fact the same care that we give when transplanting flowers, instead of harsh evictions and arbitrary instructions to 'move on', delivered in the manner of officious amateur policemen.

II I HAVE LAID OUT A NEW VILLAGE AREA IN A way that I believe will be found to be healthy, pleasant, and as spacious as reasonable economy will permit. The plan is, above all, adaptable; it has a minimum of roads and a maximum of open spaces which should be planted with trees, especially at the corners to keep it free from encroachment. Since the average means of the people are very small, it will be seen that I have made it very easy upon my plan for individuals to take up one, two, or three

sites, or to make three of my plots into two. This should enable the person of tact, who, I trust, may have the duty of allotting sites to those requiring them, to guide each towards taking up as large a plot as his means will allow. The frontages are deliberately irregular and spaced to adjust existing benches and trees in order that the village may, as far as possible, give the effect of a real village and, with its many trees, appear rather as an inhabited corner of a park than as a new street quarter of the ordinary kind. I earnestly plead that this new mode of planning be given this local trial.

The Diagnostic Survey

Bibliography of Extracts

I *Town Planning in Kapurthala. A Report to H.H. the Maharaja of Kapurthala, 1917* (*p.2*).

II *Town Planning towards City Development. A Report to the Durbar of Indore, 1918* (*Part II, p.178*).

III *Report on the Towns in the Madras Presidency, 1915: Madura* (*pp.86,88*).

IV *Town Planning towards City Development. A Report to the Durbar of Indore, 1918* (*Part I, p.50*).

V *Town Planning towards City Development. A Report to the Durbar of Indore, 1918* (*Part II, pp.166, 184*).

I BY WHAT PROCESS CAN A CITY BE REMODELLED in order to achieve the best results?

There are two schools of thought, each containing town planners, architects, and gardeners. The first, and most popular school, which has dominated thought during the last two centuries, holds that the immediate effect is alone worth consideration. Here a street as fine as may be, there a monument as impressive as funds will allow, there again an avenue as extensive or a garden as magnificent as space permits. So far so good, yet the designer possessed only by these ideas exceeds too readily the scale of his surroundings and over-reaches also the requirements of the town. The result has been that, in too many cities, imposing new streets have been laid out without survey

of their surrounding quarter and constructed without reference to local needs or potentialities. Similarly, monuments are erected on sites that please the fancy of the designer, instead of at the appropriate climax of the city and the focus of interest. Gardens also have been swept away or created according to the taste or humour, the training or the limitations of the designer.

Happily there is another school of planning, of building and of gardening that investigates and considers the whole set of existing conditions; that studies the whole place as it stands, seeking out how it has grown to be what it is, and recognizing alike its advantages, its difficulties and its defects. This school strives to adapt itself to meet the wants and needs, the ideas and ideals of the place and persons concerned. It seeks to undo as little as possible, while planning to increase the well-being of the people at all levels, from the humblest to the highest. City improvements of this kind are both less expensive to the undertaking and productive of more enjoyment to all concerned.

Although a designer of abstract patterns may appear to be animated solely by æsthetics, his decoration must be related to the use of that which he is ornamenting and must also be expressive of its material. This applies even more strongly to the work of the city designer, the architect, and the gardener. The gardener indeed has the most difficult task of all, for he has to provide a fit setting for the completion of the work of the others. Bacon, long ago in his famous essay on gardens, wrote 'Men build stately before they garden finely, as if gardening were the greater perfection'.

Environment and organism, place and people, are inseparable but, since the essential unit of a city is the home, it

will be as well to start by examining its especial requirements. With the dwelling we must consider its occupants, the man, the woman and the child. The child should obviously be strong, healthy, mentally developing, and normally 'good'. The expression of these qualities all together will normally result in child beauty, and full maturity and participation in life will follow. So with the woman, so with the man and so also with the home. This too must be stable and healthy and provide conditions for mental and moral development. It must form as substantial a part of the wealth and glory of the city as may be, with its architecture, artistic character and garden developed accordingly. The same sequence is true for a city, and all others are false.

It may be said that this is common knowledge, but what then is the cause of the frequent æsthetic failure of our results? It is due to the lack of harmony between the advancing phases of western 'science'. Each of the various specialists remains too closely concentrated upon his single specialism, too little awake to those of others. Each sees clearly and seizes firmly one petal of the six-lobed flower of life and tears it apart from the whole. In the east, on the other hand, it has been the glory of the historic sages and ancient rulers to concentrate their minds and efforts upon life as a whole. As a result, civic beauty in India has existed at all levels, from humble homes and simple shrines to palaces magnificent and temples sublime.

In city planning then, we must constantly keep in view the whole city, old and new alike in all its aspects and at all its levels The transition in an Indian city, from narrow lanes and earthen dwellings to small streets, great streets and buildings of high importance and architectural beauty,

form an inseparably interwoven structure. Once this is understood, the city plan ceases to appear as an involved network of thoroughfares dividing masses of building blocks, but appears instead as a great chessboard on which the manifold game of life is in active progress. As an old student and votary of the game I may be able occasionally to suggest certain advantageous moves; each will, however, result from a survey of the situation as it has arisen and will ignore none of the difficulties, nor shall I avoid them by attempting to make a clean sweep and starting a new game in which I may express my own methods. The problem of city planning, as of chess, is to improve the situation by, as far as may be, turning its very difficulties into opportunities. Results thus obtained are both more economical and more interesting, even æsthetically, than those that are achieved by clearing the board and re-setting all the pieces.

The first school of designers are wont, both in west and east, to start with the greatest things, such as the palace and the chief civic buildings. Only later do they penetrate the old parts of the city and then, too often, only to sweep its past before them.

The method of the diagnostic survey starts quite otherwise. First it seeks to unravel the old city's labyrinth and discern how this has grown up. Though, like all organic growths, this may at first seem confused to our modern eyes, that have for so long been trained to a mechanical order, gradually a higher form of order can be discerned —the order of life in development. This is the method of all evolutionary science and hence the method of the latest and youngest of all social sciences—and yet the most ambitious and most necessary of them all—the science of the city survey.

II. DESPITE ALL PROGRESS OF THE TOWN PLANNING movement in England and elsewhere, it still lacks contact and co-operation with the rural world around it. Even the 'Garden Villages' are as yet mere urban suburbs and have neither agricultural productivity nor a genuine contact with the area. Tagore's criticism at the opening of his 'Sadhana' that Man and Nature in the west have come to be viewed apart is indeed unanswerable. 'For in the city life Man naturally directs the concentrated light of his mental vision upon his own life and works, and this creates an artificial dissociation between himself and the Universal Nature within whose bosom he lies.' Yet it was not always thus. The Greek City was at first merely the cultural centre of the rural life of the City State; and the Roman 'Civitas', despite the excessive metropolitanism of Rome, was not just the municipal area but included the rural region together with the town, the 'Pagus' as well as the 'Municipium'.

Our returning concept of the Region, and our pleas for a Regional Survey and a Regional Service, are thus but renewals of an ancient past. Town planning and city design is not a new science and art but the recovery of the life and thought that created our civilization.

The Regional Survey brings about the reunion of town and country and enables us to see that their activities are normally in harmony. Town and country can then again be considered together as City Regions, each occupying a definite geographical area. It can also be seen that, as no two regions are alike but all differ in their conditions, each requires a correspondingly varied degree of decentralisation. Decentralisation is not, however, readily granted to them. Too many share the German dream of a predominant

World State, often with a single central metropolis. As things are, the ever-increasing hunger of each great capital with its modern overgrowth is not easily kept within bounds. The great cities cannot but seek to concentrate to themselves population and food, power and pleasure, though commonly at the expense of exploiting and even exhausting the vast areas that they subordinate. These provincial areas, with their smaller towns and cities, have become increasingly impoverished and dissatisfied and a world-wide movement is arising towards decentralisation. The depressed regions and cities are struggling to regain their old freedom and completeness of life and their desire for decentralisation expresses a tension that has long been growing between them and their metropolis.

Our western civilisation is founded on the Greek civilisation which was essentially composed of city-states. The spread of Roman roads led to their conquest and exploitation and exhausted all regions into the metropolitan maw. Yet, when the roads were broken down, the regions and cities of the Middle Ages returned to a separate, though interdependent, way of life that was both varied and fruitful.

The escape from over-centralisation explains not only the survival of the small countries of the west, but also their relative superiority. In its crudest sense this can be seen in the higher value of their securities upon the Stock Exchanges than those of the Great Powers. On higher levels it is apparent in their status in civilisation and culture and the higher proportion of contributions that they have made. With all Germany's eminence in science, the Scandinavian countries and Holland have been proportionally yet more fertile in discovery. Hence too the long social and political eminence of Switzerland and her accepted

leadership in true internationalism. Even relatively backward Portugal has generally kept in advance of Spain. Though Scotland has scarcely a seventh of England's teeming population, has she not in thought and action counted for more than that, both in the eyes of her great partner and of the world? When all is written and read of the history of England, one who was never master of more than half its area still stands highest in its long line of kings—Alfred, alone called the Great since he was unique as hero and statesman, scholar and civiliser.

Great and rich and grand though they be, the finest achievements of those cities whose population is now reckoned by the million date from their smaller days. Moreover, on biological, medical, psychological, and moral grounds, modern science renews today those statements of the fateful deterioration of such agglomerations that have been voiced throughout the past both by impassioned patriots and prophets and by cooler satirists and sober historians. Civilization, alike in its highest movements and achievements and on its comparatively permanent levels, has flourished best in small aggregates.

Despite the megalomania of every Megalopolis and the according depression of every minor city, this tendency continues. In the smaller city, man is still within easy reach of nature and so may have natural sanity and health in fuller measure than is possible in the great cities. His children also escape the deterioration inevitable to townlings. In fact, biologically speaking, the future of survival has always been less insecure for the smaller hives. In education also, the smaller centres have generally had the advantage, and British university teachers have never thought it promotion to go to London.

Even metropolitans will grant certain advantages to individual and to family life and culture in provincial cities, but they urge the economic, political, and social attractions and opportunities of the great city. How few attain these; how many fail, and, in so doing, sacrifice their small home career for a mirage. Some, however, do rise, though too seldom to any measure of effective usefulness. Administrators are but human, and the limitations of their human understanding and sympathy, their human powers, and time itself, do not enable them to cope with the affairs and needs of more than a very moderate area and its population-groupings. Even then, they can only deal with a fraction of the manifold life problems and tasks of the district.

Generally speaking, the rulers of small states have accomplished more for their lands and cities, and even for general civilisation, than the rulers of great areas. David and Solomon, kings of Israel, are remembered more than the great Pharaohs or the Assyrian conquerers. The life of Pericles the Athenian stands higher in history than that of Alexander of Macedon. In India, the heroisms of Rajastha, the spiritual tradition of the sacred cities, outweigh the glories of the great capitals which have risen and fallen throughout the ages. In fact, in west and east alike, do not the smaller states increasingly take initiative in advance of the greater? Indeed this must necessarily be so for great heterogeneous agglomerations of people cannot safely move faster than the pace of their less advanced members or than the level of agreement of their hostile parties.

III TOWN PLANNING HAS A DIRECT APPEAL TO the governing classes both in India and in the west.

We are coming to see that the tragic and increasing overcrowding, both of the old towns of Europe and the Bazaar towns of the east, for which the people themselves have hitherto so commonly and so complacently been blamed, is in many ways of our own making. Sometimes this has been caused by our industries, sometimes by our railways and sometimes through vast appropriations for our own spacious dwellings of those areas most suitable for popular expansion in the neighbourhood of the crowded city.

The dignified isolation of cantonments and Government porambokes, although in sharp contrast to the congested confusion of old bazaar towns, are none the less examples of a kindred lapse in contemporary planning. On the one hand the planner must strive to maintain the populous and gregarious nature of Indian life in village and town and yet abate its congestion and, at the same time, to lead more dwellings into garden villages without the town and provide more civic development within. On the other hand, he must mitigate the Crusoe-like individualism of the scattered and formless bungalow compounds and endeavour to build these up into coherent communities.

This criticism, which has to be made in many cities, at once causes alarm among the European population. Interference with a Brahmin or a Muhammadan colony is as nothing compared to meddling with a bungalow poramboke.

The danger is, however, imaginary. The Muhammadan should not be isolated from his mosque nor the Brahmin

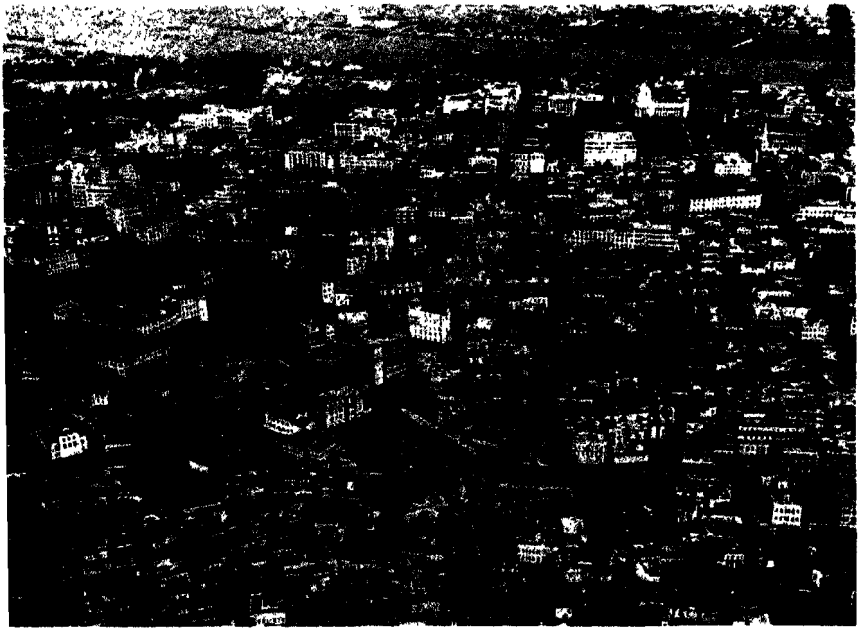


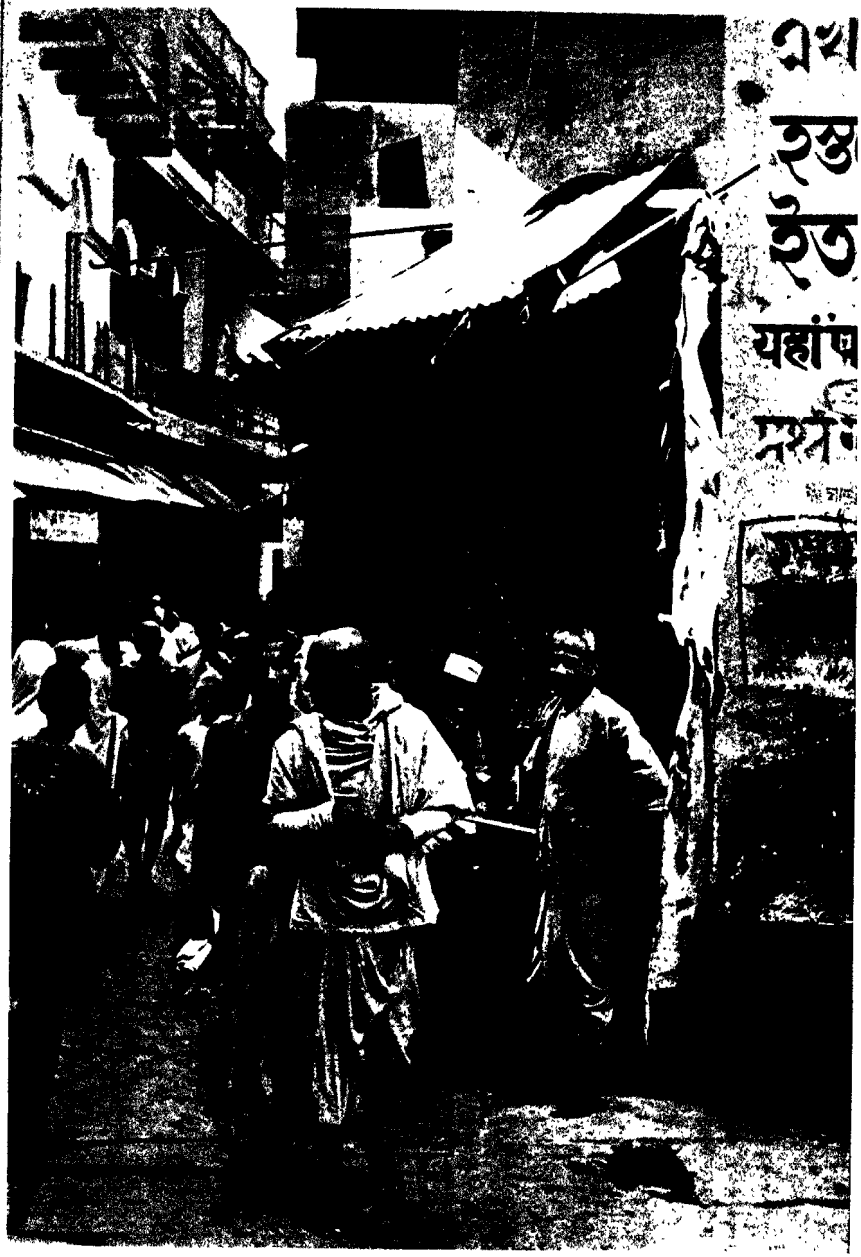
1 'In city planning we must constantly keep in view the whole city, old and new alike,



2 'The dignified isolation of cantonments and Government perambokes is in sharp contrast to the congested confusion of old bazaar towns.' *Old and New Delhi*, 1942

3 'When an engineer rushes into town planning he too often adopts the simple expedient of drawing straight thoroughfares on the drawing board across the town plan and then sawing them through the town, regardless of cost and consequence.' *Calcutta*, 1942

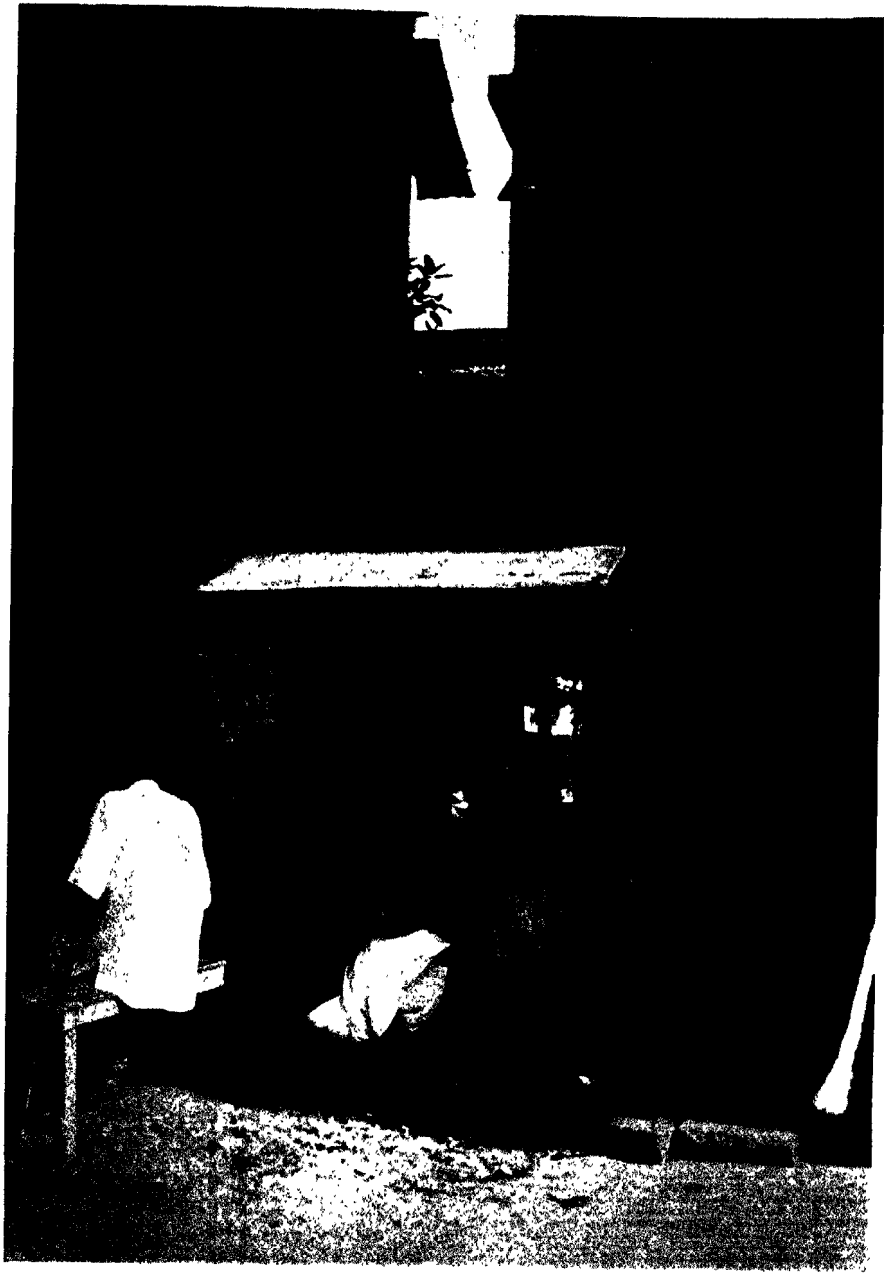




4 'In the congested streets a shop throws out a verandah in front, and later puts up another in front of that, till the street is so narrow that a single bullock cart knocks corners off the houses.'

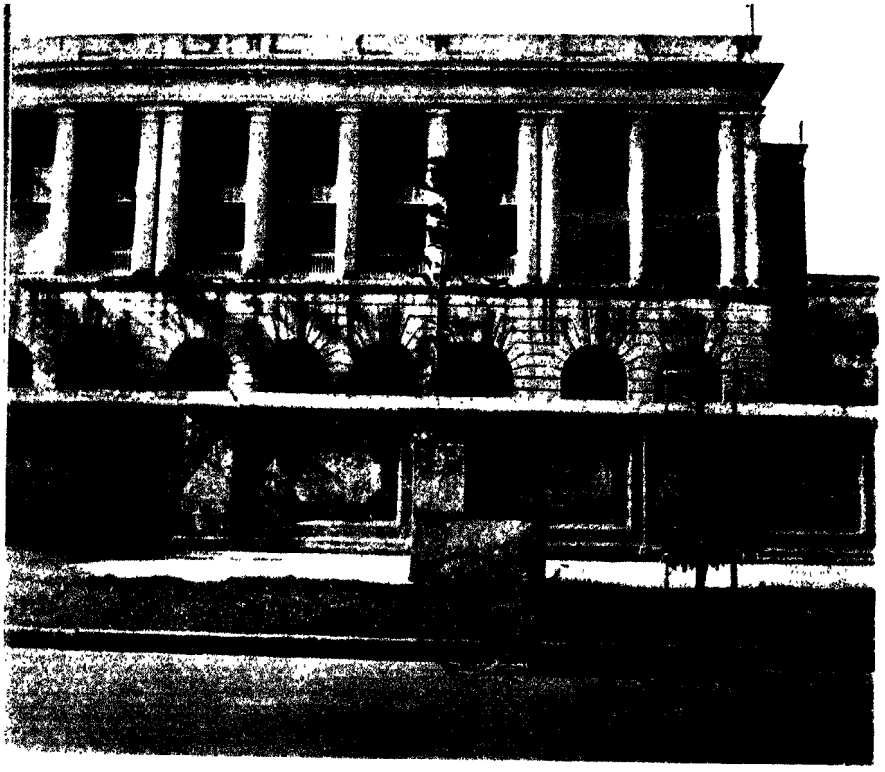
Benares, U.P., 1944

(Plates 2 and 3 by courtesy of Indian Air Surveys)



5 'The tragic and increasing overcrowding for which the people themselves have so commonly and so complacently been blamed is in many ways of our own making. Sometimes this has been caused by our industries, sometimes by our transport routes, and sometimes through our vast appropriation of land for our own spacious buildings.'

Lower Circular Road, Calcutta, 1944



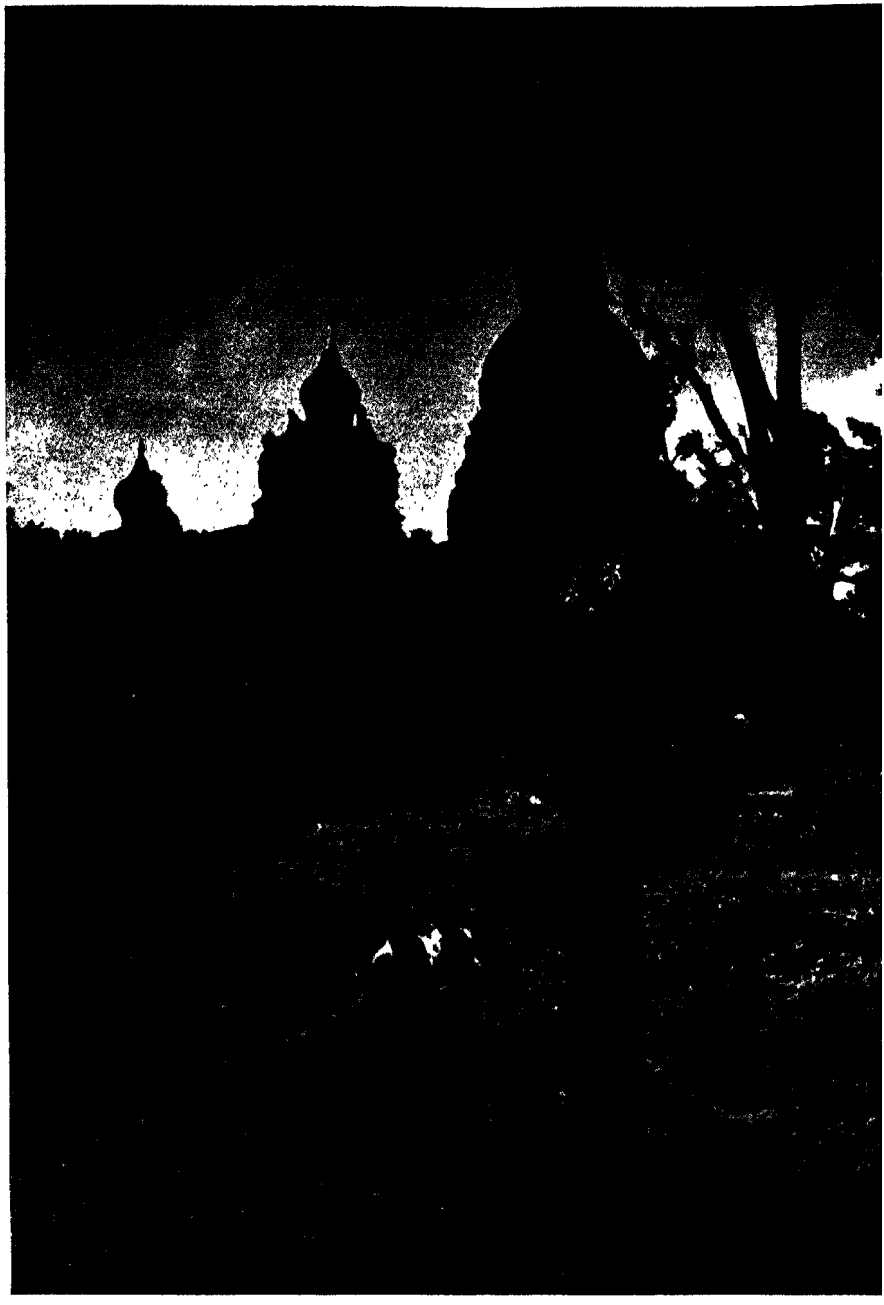
6 'The brief daily journey of the sweeper's cart should pass frankly along the main thoroughfare. When conservancy lanes are provided for the cartage of ordure, the system falls steadily and surely to the level of its purpose. When the sweepers pass along the main streets, both their methods and their standards rise.' *Park Street, Calcutta, 1943*



7 'In housing areas there is no need of wide dusty streets. Indian tradition is far wiser with its use of narrow lanes, opening into pleasant squares, each containing a shade-bearing tree. The narrowness of the lanes makes for shade and quietness, and leaves building sites large enough to enclose courtyards and gardens.' *Teppakalam, Trichinopoly,* 1945



8 'A courtyard, bright with colour-wash and gay with old wall-pictures, adorned with flowers and blessed by its shrine.' *Benares, U.P., 1944*



9 In a garden the woman has space for her venerated tulsi plant, growing on its pedestal in a conspicuous place of honour. There is room also for a fruit tree, a guava or an orange, though seldom space enough for a mango. Perhaps there will also be a patch of plantains (bananas) or one or two papayas and a sprinkle of marigolds, of which she can take a handful to the Temple or string a garland on great occasions.' *Sasvad, Deccan, 1945*

from his temple, tank, or river, nor should we cease to plan spacious bungalow compounds for the Europeans, approached by wide avenues and surrounded by the gardens that they love. The difference would lie in the elimination of those acres of desert, inhabited only by weeds and snakes and a few ill-planted trees, that often divide neighbour from neighbour. There would also be fewer of the derelict patches and spoiled corners that throw away so much of the avenue and boulevard effects that were intended, so that the areas are conspicuously deficient in those touches of order and taste that are so much admired in their Continental prototypes.

This criticism can be understood more clearly if it is related to its historical context. From the days of the earliest renaissance in Italy to nearly the end of the eighteenth century, the governing classes over almost the whole of Europe built a succession of the stateliest palaces and mansions, with gardens and parks, avenues and forests, such as had never before been devised.

At the close of the eighteenth century, however, a new style of gardening came in, commonly called the English or Landscape Garden style in contrast to the former so-called Italian style; though in fact this was to a great extent Persian and Moghul in origin. This change was brought about largely by reason of the 'return to nature' movement, of which Rousseau was the chief exponent; partly as a consequence of the eclipse of aristocratic tradition and taste which followed upon the political and industrial revolutions; partly also by the direct agency of London-Chinese tea merchants.

Stately avenues and classic gardens rapidly gave way before the new wave of romantic feeling in which the

castles and ruins of the Waverley Novels and the pagodas and irregular flower gardens of China became strangely mingled. This new style, however, developed a few masters, notably Repton and 'Capability Brown'. These introduced the irregular parks and winding avenues that surround the modern English mansion, sometimes with undeniable effect but often with conspicuous failure. When transplanted abroad, as in British cantonment or official areas, the successful effect is rare, the failure is frequent. In fields where even landscape gardeners—who are in effect landscape painters on a vast scale—fail so readily as they do, it can hardly be expected that the artizan gardener, or even the botanic gardener from Kew or Edinburgh, should succeed. His very mastery of the detail of his subject, with his foreground of specimen plants, is a snare to him.

IV THE GENERAL LEVEL OF CIVIC THOUGHT and town planning knowledge amongst governing authorities and municipal bodies is well illustrated by a passage from a letter I have recently received from a distinguished civic servant, an engineer in charge of one of the most historic and beautiful cities of India. He had done me the honour of consulting me about its most famous monument. In acknowledging my report he regretfully explains that 'as both water and drainage schemes are in contemplation, the city must deny itself the luxury of town planning'.

The absence of comprehension that water and drainage schemes are part of a town plan must be in part blamed upon town planners themselves. Yet, had my correspondent reflected that the most fundamental concerns of town

planning are not the care of monuments but rather the improvement of communications, the sanitation of congested or unsatisfactory areas and the laying-out of town extensions, it would have been evident to him that planning should precede and facilitate both water supply and drainage schemes. Further, it should be clear that the existence of a plan would enable considerable economies to be made in the extension of water and drainage to future suburbs.

The converse is not, however, the case. Engineering should not precede town planning, otherwise a network of needless water mains and drains has to be laid along the lines of existing streets and lanes. This means that a great deal of capital is sunk unnecessarily and it becomes doubly difficult and costly to replan the area with shorter and more economical runs.

In brief, town planning undertaken before water and drainage schemes makes very great economies possible: conversely, where these are carried out before a plan is made, loss, waste and difficulties arise.

Sometimes, of course, an engineer does realise this and rushes into town planning, when he, too often, adopts the simple expedient of drawing straight thoroughfares across the town plan and then sawing them through the town, regardless of both cost and consequence.

V THE MEASURE OF THE SUCCESS OF A CITY survey depends upon its appeal to the individuals that compose the city: upon its power to rouse each from his, often life-long, training of seeing himself as a self-interested economic man—and therefore mere dust

of the State—to realising himself as an effective citizen valuing his life's work, whether this be high or humble, as his contribution to his city, in his city and for his city.

Those who participate in the city survey will come to understand the essentials of the city's life and well-being. They will come to realise that the simple tasks of cleansing and clearing, housing and gardening are full of wealth-values, health-values, civilization-values, art-values: in a single word, of life-values.

Closely connected with these values are improved conditions of the local industries, both great and small; a better and more copious food supply; better housing and sanitation; better water supply, and a better use made of it; above all, a better method for assuring these improvements.

The handling of these schemes will require better people and these will arise as soon as action becomes possible. Then, as education and citizenship advance together, they will co-adjust all these needs. Instead of the old and vicious circle of individualism, competition and impoverishment, they will create an opening spiral of reconstruction and well-being.

With town planning and civics, as with every other art and science, efficiency can only be obtained by long and patient work. This should start by the development in youth of a civic consciousness, working up through knowledge of the immediate locality and city to a larger and more general grasp of their problems. This approach and interest must then be sustained and developed throughout years of action and untiring effort.

It is due to their lack of such a concrete training that the

efforts of municipalities in India are not yielding the results which they desire.

There is, therefore, a great need of public co-operation; of an ever-increasing body of active citizens who will no longer leave all matters to official authority but work with the municipal representatives. A body of citizens who will be both desirous and acceptant of expert leadership, not querulous and murmuring but yet giving voice to reasonable remonstrance if need be, since even the best administrations require at times to be reminded that they are not infallible.

Local knowledge and understanding are essential to the town planner, together with consideration and tact when dealing with the individual requirements of the citizens. Other requirements are powers of social appeal and a civic enthusiasm that will enable him to arouse neighbourhood after neighbourhood to participate in schemes of improvements instead of remaining indifferent to them. Only in this way can he gradually inspire the city as a whole.

For such work, moral influence and energy are needed in no small measure. This must not, however, be expressed by an authoritative attitude that ignores apathy and overpowers opposition. If the plans are to succeed, more than technical expertness and activity are required; more than municipal powers and business methods. The town planner fails unless he can become something of a miracle-worker to the people. He must be able to show them signs and wonders, to abate malaria, plague, enteric, child-mortality, and to create wonders of beauty and veritable transformation scenes. Sometimes he can do this in a few weeks, or even in a few days, by changing a squalid slum into a pleasant courtyard, bright with colour-wash and gay with

old wall-pictures, adorned with flowers and blessed again by its repaired and replanted shrine. Within a year he can change an expanse of rubbish mounds, befouled in every hollow and defiling every home with their germ-laden dust, into a restful and shady open space, where the elders can sit in the evening watching the children at play and watering the new trees they have helped to plant.

As 'public health' becomes seen and felt by the people to be something enhancing their common weal and their family well-being, there will be little fear of their response. Doubtful legends, often downright fictions, regarding the indifference of the people to improvements in their environment, and even of wanton carelessness and destruction, were long in circulation in the 'west ends' of towns in Britain. Yet in time such criticism gave way in face of overwhelming evidence to the contrary.

The housewife with her helpful children, the girl watering a tulsi-plant, the sweeper at his humble task, the craftsman and artist at their labour, all and each are plainly helping their great town towards its development in health and wealth. They are, at the same time, educating themselves morally and socially. As this education continues, and more and more 'individuals' develop into citizens, ideas will become organized into personal purpose and public life, instead of being diffused and scattered—like new dust over old—as at present. The people of the city will no longer be a mutually distrustful crowd but an army bent on victory. They will no longer flee from the plague and lie down under malaria, but will face, conquer, and expel these and other evils in their wake.

Without such high endeavour the best of planning will remain on paper or will fall away from its beginnings. On

the other hand, the co-ordination of enthusiasm into steady action, day by day and year by year, must be the special task of a City Development Office. Through this office schemes must be initiated, encouraged, and maintained, appropriate projects being accelerated and intensified as occasion arises. This requires skilful organization, as sure, as delicate, and as responsive as that of the producer of a play or the conductor of an orchestra. Above all the planner must possess a sustained courage and a contagious glow of feeling. Behind the cool propriety of the open shop, the steady counting house and the busy looms, must be the glowing furnace, energizing all.

Nothing short of such an organization and purpose will ever retrieve and develop any city. It is impossible for a City Development Office to be conducted as a spare-time occupation by men already pre-occupied with the innumerable details of existing administration. A substantial annual budget is required and this can only be best and most economically used by the employment of a picked staff of energetic and experienced men with a vigorous and inspiring head directly responsible to the Municipality.

Conservative Surgery

Bibliography of Extracts

I *Report on the Towns in the Madras Presidency, 1915: Tanjore (p.17).*

II *Report on the Towns in the Madras Presidency, 1915: Ballary (p.23).*

III *Town Planning in Balrampur. A Report to the Honourable the Maharajah Bahadur, 1917 (p.41).*

IV *Report on the Towns in the Madras Presidency, 1915: Madura (p.82).*

V *Town Planning in Lucknow. A Second Report to the Municipal Council, 1917 (p.2).*

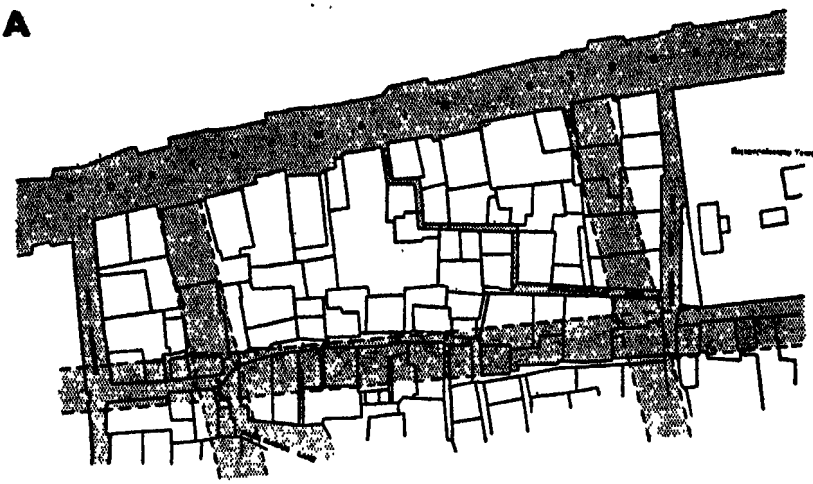
VI *Town Planning in Kapurthala. A Report to H.H. the Maharaja of Kapurthala, 1917 (p.17).*

IN THIS TOWN, AS USUAL, IT IS PROPOSED to drive a new gridiron of forty feet streets through a congested and insanitary area. Again as usual, this dreary and conventional plan is quite unsparing to the old homes and to the neighbourhood life of the area. It leaves fewer housing sites and these mostly narrower than before and the large population thus expelled would, again as usual, be driven into creating worse congestion in other quarters, to the advantage only of the rack-renting interests. This interest often consciously, but sometimes, I am willing to believe, quite unconsciously, is at the bottom of this

pretentious but spurious method of 'relieving congestion', which has been practised in European and in Indian cities alike. Nor, so far as my knowledge goes, has the offer of suburban sites met this difficulty ever or anywhere. Even if, as rarely happens, the new site offered is both suitable and acceptable to the people expelled, they are practically excluded by the present cost of building in favour of the more prosperous classes. Hence the result of these would-be improvements is to increase the serious depression of the poor and make this ever more difficult to relieve.

The method of Conservative Surgery, on the other hand, brings out different and encouraging results; first it shows that the new streets prove not to be really required since, by simply enlarging the existing lanes, ample communications already exist; secondly that, with the addition of some vacant lots and the removal of a few of the most dilapidated and insanitary houses, these lanes can be greatly improved and every house brought within reach of fresh air as well as of material sanitation—a point on which the more pretentious method constantly fails, as is evident on every plan. The estimated cost of the engineer's gridiron is, in this town, some 30,000 rupees, merely for the portion selected as a start, whereas, by Conservative Surgery, the total expense for this typical area (including necessary outlays on roads and drains) is officially estimated at only 5000 rupees—one-sixth of the preceding amount. The same method could, of course, be continued over the whole town and the 30,000 rupees, originally voted as the first instalment for gridiron clearance, would go a very long way towards accomplishing a reasonable plan for the whole area.

A



A. Portion of Tanjore Fort. The Municipal Council's proposals for the relief of congestion. Cost about Rs 30,000. Scale 1 cm. equals 100 feet.

B. Portion of Tanjore Fort. A 'diagnostic survey.'

C. Portion of Tanjore Fort. The congested area as it would appear after the application of 'conservative surgery.' Cost about Rs 5,000.

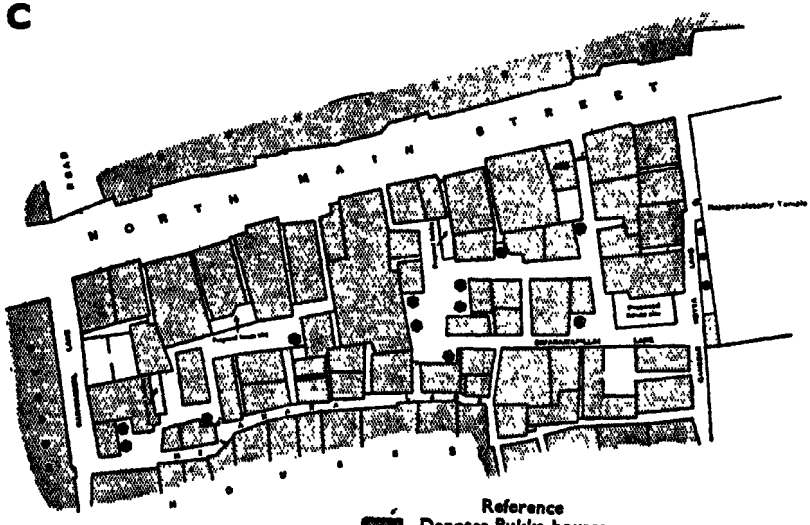
B



References

Denotes Pukka house
Do Thatched houses
Do Houses in ruins without roof
Do Roads and Lanes belonging to the municipality
Private and other open places
Do Vegetable gardens
Do Portions to be acquired

C



Reference

Denotes Pukka houses
Do Position of trees to be grown
Do Roads, streets and other open spaces

So extreme is the contrast between this simple, economical, yet more thorough method of improvement by conservation, and the customary system of slicing through new sanitary lanes, that I am constantly compelled to wonder how this system, at once so costly and so inefficient, can have become so general both in India and in Europe. True, to the professed utilitarian, the preservation of the old world picturesqueness of these courts and lanes is obviously anathema. It rouses all those deep-seated prejudices and readily excited sentiments towards a coldly fanatical iconoclasm of old-world beauty, which had such disastrous effects during the past century that they are hardly equalled by the savagery of war. Yet, when we realise that not only does this system cost from six to tenfold that of the commonsense methods of Conservative Surgery, but that it is less efficient in the locality and causes an intensification of congestion elsewhere—in fact that the old difficulties persist—surely the awakening of public interest must be at hand.

The conservative method, however, has its difficulties. It requires long and patient study. The work cannot be done in the office with ruler and parallels, for the plan must be sketched out on the spot, after wearying hours of perambulation—commonly amid sights and odours which neither Brahmin nor Briton has generally schooled himself to endure, despite the moral and physical courage of which each is legitimately proud. This type of work also requires maps of a higher degree of detail and accuracy than those hitherto required by law for municipal or governmental use—indeed, in this town, it was found necessary to establish a practical class for engineers and surveyors for this purpose. Even when a detailed and corrected map has

been produced (instead of a rude tracing from the revenue atlas, necessarily largely out of date) the task is still difficult. Even after a good deal of experience of the game, one constantly finds oneself in check; now and then so definitely and persistently as to feel tempted, like the impatient chess-player, to sweep a fist through the pieces which stand in the way. This destructive impatience is, indeed, an old vice of beginners in a position of authority; and their chance of learning the real game is, of course, spoiled by such an abuse of it.

II THE POLICY OF SWEEPING CLEARANCES should be recognised for what I believe it is; one of the most disastrous and pernicious blunders in the chequered history of sanitation.

I must go even further and ask those who have supported these demolitions as measures against plague, whether they have not only been found to fail in the purpose, but, still worse, to be a possible contributory cause of its return. Let them imagine the effect of drawing their sanitarian foot through a crowded anthill upon not only those human ants who are thrust out, but also upon the rats, who are also suddenly compelled to migrate. The effect is that people and rats alike crowd into other already densely populated areas. Must not the increased numbers of starving and struggling rats become increasingly liable to disease: and does not the congested, heaped-up human population become less able than before to keep down the rats and also become more careless of fleas? For, when her old home is taken away, what joy has a woman in the inferior lodgings to which we have now consigned her?

In many cases, however, advocates of these new thoroughfares have omitted all reference to plague; and their recommendation has not been based on grounds of general sanitary developments, nor of economic development, nor even of the development of communications, as these are ordinarily understood. The main ground for their recommendation appears to have been what can only be described as 'æsthetics'. The Corporation have been rebuked for their failure to provide perfectly straight thoroughfares of an even breadth along the new clearances. In reply it is stated that, with every appreciation of the beauties of straight thoroughfares, they have been obliged to avoid temples and other property too difficult for removal as they cannot always afford to demolish a pukka (well built) dwelling when a katcha (mud built) one on the opposite side of the road may be purchased far more cheaply, and will only cause a slight deflection from the straight line. These excuses are countered by renewed demands that the thoroughfares should be constructed with a mathematical accuracy. Strangest of all, when, as sometimes happens, the breadth of the new clearances is well above the thirty-four feet standard (with, of course, a correspondingly increased gain to sanitation, and so on), the Corporation has given instructions for the roadway to be narrowed to retain the regulation breadth of thirty-four feet. Nor is practicable guidance given for the use of these unrequired spaces that lie beyond the thirty-four feet line. In some cases these strips of ground might be given away to the properties abutting them and which are now upon the new thoroughfares but, since these seldom effectively front upon the new road but often turn only a gable-side, I cannot imagine that many would purchase the new strips.

In other cases the spaces are just large enough for new shops, or even dwellings but, if they were sold by auction and new erections built, these would usually be so small and narrow as to be insanitary from the start and provide a new cause of insanitation for the area.

I deeply regret to write in this uncompromising way of roads which are so evidently designed and paved with good intentions; and I have not ventured to do so without hesitation, nor indeed, until after prolonged delay and reflection. But in view of the past, present, and proposed clearances coming up for review in this and other cities, it is needful to take a distinct stand. Only thus can we urge that such schemes are more carefully considered in the future and that their possible defects or failure are more clearly foreseen than they have been in this and other cases.

What can in fact now be done? It is clear that we must face the impossibility for years to come of completing those new and prosperous thoroughfares which were dreamed of at the outset of these clearances. The question is, therefore, how can these gaping slashes across the town be to some extent healed, so that their gradual revival and re-occupancy may take place. By all means, let frontages be sold where there is anyone to buy them or even, if need be, let them be given away to any neighbouring property which can afford to construct a new frontage upon the street. I do not accept, however, the proposal to reduce the width in order to form straight streets of thirty-four feet. I recommend simply using these irregular spaces for the planting of trees in almost complete avenues, thus concealing the accidental shapes of neighbouring boundaries.

The mathematical straight line is thus given up, but a different æsthetic result is obtained; and I venture to say

one more attractive, as well as incomparably cheaper than anything else which can be done with the boundaries as they are. The irregular gables and walls that abut upon these new avenues will thus soon be screened by trees. What may still be seen of them will not be entirely destitute of picturesqueness even from the first; and, as the proprietors adjust their buildings to utilise new entrances and outlooks, improvements will continue. This, I venture to submit, would make the best of the present situation.

III SOME OF THE PRINCIPLES OF CONSERVATIVE surgery can be illustrated in a quarter south of the palace of Balrampur. Here are two plans. The first, a tracing from the Municipal Survey, shows the existing labyrinth which is crowded and dilapidated, dirty and depressed. The second shows a plan that has resulted from an intensive study of the area, house by house as well as lane by lane. It will be seen that the lanes have now become reasonably spacious and orderly, though not formally so, and that open and easy communications exist in every direction.

At first sight it may seem that very extensive demolitions have been proposed entailing costly compensation, but examination on the site will show that this is not so.

Here, as so often, the right starting points have been provided by the existing open spaces, each with its well and temple.

These spaces have been slightly extended by clearing the sites of all fallen buildings and planting trees to protect the enlarged spaces against future encroachment. The open spaces can then be linked by further small clearances, mainly at the expense of ruined and dilapidated buildings.

As this study of the locality proceeds, one is encouraged by the results, alike for sanitation and for beauty. As these depressed and dilapidated old quarters re-open to one another it can be seen that the old village life, with its admirable combination of private simplicity and sacred magnificence, is only awaiting renewal.

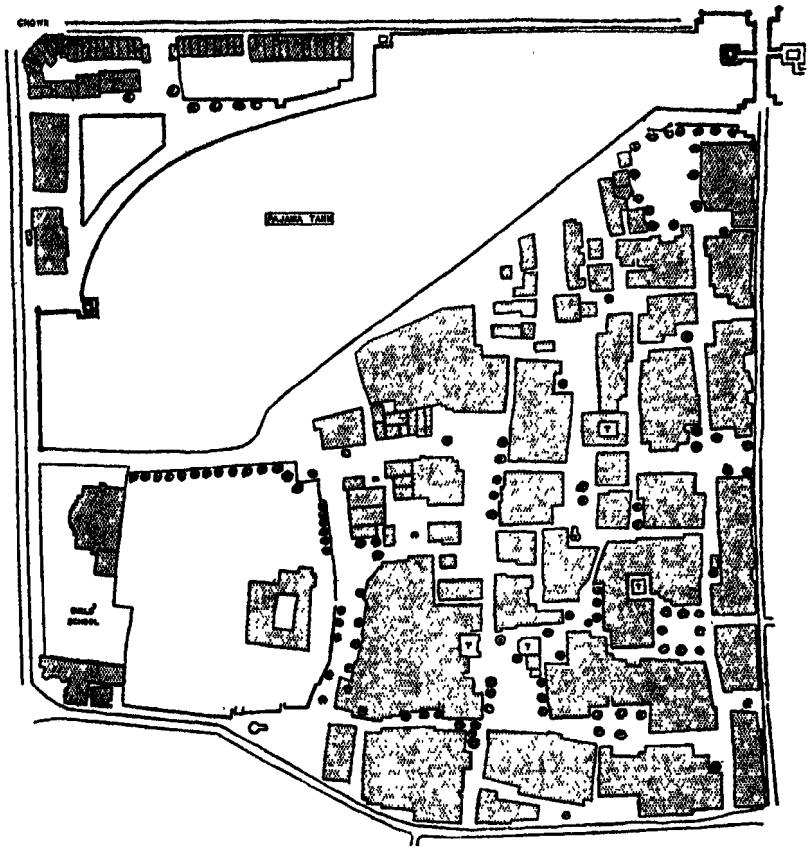
Even in the beautiful old cities of the west we have rarely such a wealth either of open spaces or of antique shrines. In fine old European towns, as of Belgium or Italy, the churches are larger and more magnificent, but the great number of these small shrines, with their domes and spires always pleasing and often admirably proportioned and wrought, makes an effect which, though less magnificent, is in a way even more delightful.

The beauty that still survives, though obscured by the ramifications of the old plan, can be seen as one walks through the quarter. We may walk eastwards from the Girls' School and soon we shall come upon a central square, to be cleared of its dilapidated buildings in the new plan. Here is a Temple and a large Thakur-dwara, face to face —the latter adorned, as quaintly as any Gothic edifice, with great beasts, all spirited and living. The garden, now laid waste, may be replanted, and a little shrine arise as centre to the whole. From this point northward, the road is widened, but inexpensively. The busy Bazaar Road that runs north and south to the east of the district has been relieved, partly by re-opening the long parallel to it to the west and partly by clearing and planting a wide opening between them.

For such improvements to have their full value, the work should be done comprehensively and within a short period of time. There is no wiser saying in the writing of



D. Balrampur: The quarter south of the Palace and of Pajawa Tank from the Municipal Plan.



E. Balrampur: The same quarter as improved.

John Stuart Mill, the classic economist of the last generation, than his reminder that, if we would improve the condition of the people, the improvement must be on a scale that they can observe and realise; not frittered away piecemeal as are so many municipal improvements. In these cases the changes pass unnoticed and are neglected. In the former case they are appreciated and the people rise to the occasion.

IV NORTH OF A WRETCHED COTTON SLUM IN a city of Southern India, a little Temple, obviously for popular and humble use, has just been built. It is covered with new sculpture and gorgeous with colour. Does this show that 'the citizens do not care for improvements'? Everywhere in the slums we see women toiling and sweeping, each struggling to maintain her poor little home above the distressingly low level of municipal paving and draining in the quarter. The fault does not lie with the people and I have no fear that the people of the cities would not respond to improvements. The immediate problem is for the municipal and central government to understand what improvements really are needed and desired, both domestic and social, spiritual and artistic.

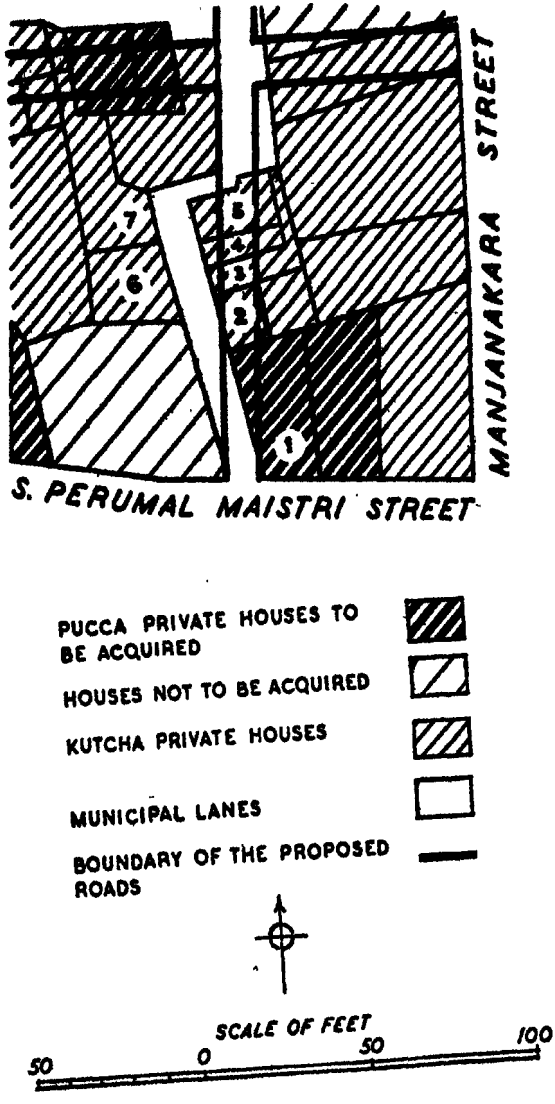
One of the poor quarters of this same town is at present threatened with 'relief of congestion', and we are shown a rough plan in which the usual gridiron of new thoroughfares is hacked through its old-world village life. We are told that this sweeping and costly plan is not the original one, but is regarded as a moderate and even economical substitute for the first one of total demolition, that was happily too expensive to obtain the sanction or support of the Government. It is not suggested that the new

thoroughfares to be made through this area are required in any way for city communication; the streets outside the area are amply sufficient for this purpose. This local scheme is only one of 'sanitation'.

We start walking through the district, and find that the very first house doomed to speedy destruction is as substantial, decent, and even pleasing, as one could wish to see. Why then should it be demolished? The explanation is 'straightening the new lane beside it'. This new lane is not intended to be appreciably broader than the present one and the only merit claimed for the destruction is that it will bring the new lane about sixteen degrees nearer to the draughtsman's straight line than at present. In short, the 'sanitary' improvements begin by destroying an excellent home and squandering its value (at least 3000 rupees) for the sole purpose of inclining the present lane from a position slightly oblique to the edge of the drawing board to one strictly parallel to it.

How is such planning to be explained? I take it as a vivid illustration of the 'principle of functional substitution' as it is called by evolutionists. Were this a question of a new conservancy lane or a new latrine I could understand it. These are the sacred shrines of the sanitation engineers who originate these clearances. But draughtsmen care no more for sanitation than do other members of the public. When copying the plans of a sanitarian their prime interest is in its neat straight lines. Thus a crude sanitation plan gives place to a still more elementary æsthetic, and we here do obeisance to the straight lines of the drawing board and the set square.

What then should be the solution of this particular case —and to the treatment of the whole area?



F. Madura: Uppukara Block: Part of the Municipal Council's proposals.



G. Madura: Uppukara Block: The same corner as it would appear after the application of "conservative surgery."

First let us leave the good entrance house as it stands, but remove the almost valueless and dilapidated rubbish from behind it. This has the immediate result of widening out the present crooked lane into a pleasant square, large enough to plant a tree in. On the opposite side of this entrance lane and the new square are two vacant sites. The destruction plan takes no heed of these. This may be because it has little money. However, the clearance of the small slums to form the new square will cost only 2-300 rupees instead of more than 3000 rupees to buy up the corner house. We can, therefore, afford to acquire these two sites, whose cost will only be moderate, and thus provide room for two good new houses to compensate for two bad ones that we may, further on, have to destroy.

This is but the opening of the game, but it commends itself to the commonsense of my companions. We work on together in this way hour after hour, and gradually a new plan evolves. A plan with as much new vacant space as was contained in the former plan, but without any of the sweeping destruction, and consequent displacement of people and overcrowding of other quarters, that it threatened.

V THE NINETEENTH CENTURY INDUSTRIAL ORDER sought a good location for its industrial undertakings in terms of situation and communications. It then confused and deteriorated these advantages into the planless muddle of industrial Glasgow or Bombay, of Calcutta or London East End. Depression and deterioration both of the worker and his work and also of the management increased, as the good situation with which they had started became wasted and spoilt.

We are now awakening from all this to the need of Town Planning. This no longer means the 'Standard Plans'—those standardised semi-slums still produced by too many out-of-date engineering and sanitary authorities which are but the slums of tomorrow—but the recovery and renewal of old-world village life, which is the vital secret of the working quarter, both for east and for west alike. Yet there must be no mere sentimental renewals of village customs now obsolete, or of artistic embellishments now outworn. Such only discourage the renewal of the village at its best—and in Europe they have sometimes done so. The problem is how to accomplish this return to the health of village life, with its beauty of surroundings and its contact with nature, upon a new spiral turning beyond the old one which, at the same time, frankly and fully incorporates the best advantages of town-life.

It is with such a standpoint that we must plan the present area. We have to work out, around this economic centre, conditions for improved dwellings and social life without losing or sacrificing any of its business or industrial advantages but rather by increasing and improving upon them. A housing area requires first of all good-sized compounds, and then sound planning within them. We must, therefore, plead increasingly for tree space, and, as far as may be, for garden space within the compounds. For these houses we do not need wide dusty streets as many Europeans—and those most extremes of Europeans, the European-educated Indians—still too often think. Indian tradition is far wiser with its use of narrow lanes, since these admit of shade and quietness without, and leave an ampler space for the houses within. The engineer of today too often snorts or hoots at all such narrow lanes but,

as people recover from this contemporary intoxication of motorists and see it as but a malady of youth communicated from the machine to its driver and master, others will learn to distinguish once more, as planners already do, between main routes of communication and homely village lanes. At that time we shall be able to make each in its right place and not continue to spoil both by imposing upon each some of the limitations of the other, as is now almost universally the case.

VI HOW IS DOMESTIC IMPROVEMENT TO BE assured? One way is to prepare a general design for the treatment of the whole street front. This may be done either with or without reference to the old town and its historic styles. The historic styles are seldom constant but are varied according to the taste of each houseowner. One man desires an open balcony, another a closed and projecting one, while a third cares for neither, but prefers a decorated oriel window, and the next again makes all severely plain. One loves the painted plaster house fronts, of which some still survive, another will only have plain whitewash, and a third yellow or red. Here then—just as in my own home city of Edinburgh, and more or less everywhere else between—we have in sharp contrast the two main styles possible to humanity, on the one side regular and formal, on the other individual and free. In new towns the former predominates, in old towns the latter; and I am strongly of the opinion that for old towns this freedom should be retained. This street front will look all the better for a certain freedom of treatment and rivalry between the houses. However, here is a suggestion to help both the craftsman and the citizens, the 'mistri', and

their employers. Let photographs be taken which will call attention to those innumerable beauties of the city that, both in general aspect and in detail, are unnoticed or forgotten at present by the inhabitants. Their owners—and also their builders when these are still living—will be agreeably surprised to find their things appreciated.

Together with these let there be additional exhibits of good domestic architecture and street views from other cities of India, and also from cities beyond. In this way interest will be still further aroused. The citizens will think more of the craftsmen, and the craftsmen of themselves; and the next crop of new buildings will show gratifying results.

A Sociological Approach

Bibliography of Extracts

I *Report on the Towns in the Madras Presidency, 1915: Cocanada (p.8).*

II *Town Planning towards City Developments. A Report to the Durbar of Indore, 1918 (Part I, p.173).*

III *Report on the Towns in the Madras Presidency, 1915: Madura (p.82).*

I PEOPLE LIVING IN THE DESOLATE INDIVIDUALISM of nineteenth century European cities have come to be satisfied with inhabiting a number in a street; separated, as though by death, from their neighbours on either hand; and with friends and relations scattered indeterminately over the city in similar conditions of isolation. The constant interests of family and kindred, neighbourhood and village, have vanished from our western 'progressive' cities—with consequences that need not be elaborated here.

The trouble is, however, that, with this new European pattern of life in mind, we tend to introduce into India not only our western conception of a home, containing the family reduced to its simplest expression, but also the complete independence of this home from all others.

How different is this from the traditional Indian household, each of which contains many families grouped around the old grandparents. Though, to the superficial European eye, this may often seem 'mere overcrowding', and

though overcrowding does often arise, yet we must not forget that, to the Indian, our western system seems little different from utter homelessness.

The respective advantages of the two ways of life have often been argued, and need not be discussed here. It is enough that the people for whom we build belong to the Indian way of life and that the plan which we have chosen for them is based upon the European way of life and designed for his limited family. Misfit is thus assured. There is no need to pause to apportion blame: rather we should proceed to redesign our plans more in accordance with the nature of the families for whom we have to provide.

Let us assume first that rather more land is available and that we can extend the roads to something like the length originally contemplated. The result would obviously be that they could serve more houses. There would be no need, however, for all the houses to be built in the continuous order usually preferred by builders and land speculators. Rather the new house-plots could be allotted with spaces intervening between them. This would create an area of more open development and a new type of village pattern. If the intervening spaces were left vacant to weeds and untidiness criticism would fairly arise: but why not plant them with fruit trees to shade and enrich a future house when it is built upon the site? In the meantime the ground could be let to one or other of the neighbours or to a market gardener.

The advantages of this simple method of suburban expansion are many. First the village-like layout would symbolise its escape from European isolationism; second it could be easily adapted to suit the needs of growing

Indian family groups; third it would encourage a real economic saving by enabling larger and better houses to be erected. The present official type of building layout is practically unalterable once the houses are erected, but the proposed layout would give ample scope for extensions and improvements to houses, especially when two building plots can be taken together. One of the outstanding distinctions between European and Indian family life that should readily impress us is that, whereas only few Europeans possess hereditary homes even among the rich, this tends to be the rule in India even among the poor. As one lives and learns, it becomes ever more apparent that house pride and family pride, though sometimes expressed differently, are fundamentally the same both in east and west. Indeed, surely the present English garden city movement is not only an escape from the nineteenth century by-law streets into a better environment but also an attempt to renew those essentials of the large family life and sociability that still exist in India.

II IN ORDER TO ESTABLISH GARDEN SUBURBS IN European countries, propaganda has to be made to a series of individuals who gradually take up the house plots one by one. Thus our new garden cities and garden suburbs grow but slowly. Here in India, however, it is easy to make collective appeals for the simultaneous establishment of whole groups of families so that development could be far more rapid.

Another obstacle to the growth of garden cities in England has been the difficulty of organising co-operation between neighbours in the new housing projects. Since all the possible co-operators are strangers to one another with

no mutual ties, it is not surprising that such movements develop with difficulty. In India it is quite otherwise. Here each community has ties without number, of antiquity and strength, of blood and faith, of caste and occupation and, linked with these, a tradition of collective action and of generosity of the rich towards poorer brethren.

Instead, therefore, of thinking, as so many do, that these 'advanced western methods' are not applicable to the 'conservative eastern atmosphere', I am myself compelled to exactly the opposite opinion. I believe that the many compact groups that compose an Indian city could themselves both organize and carry out large scale housing schemes far more easily and successfully than we, scattered, western 'individuals' have yet been able to do.

III FOR A LONG PERIOD, MUNICIPALITIES HAVE neglected their poorer quarters and these have become ever more insanitary and congested.

When the position grows quite intolerable some piecemeal sanitary improvements are undertaken. These must be maintained, and inspections and inspectors multiply. Sooner or later the inadequacy of those methods is realised and it is decided that 'something must be done'. The Municipality moves from these weak and critical methods to the opposite extreme of sweeping demolition. The effect of the demolitions is to increase overcrowding in the surrounding areas, heighten the rents and intensify the poverty of the population. The well-meaning Municipality next sets about vast schemes of water-supply and drainage, which are sometimes questionable and sometimes unsuccessful but always very costly. Often these also involve sweeping destruction of old wells and reservoirs and too

often all ordinary drainage repairs are held up until the new drainage is ready. This provides the unfortunate and impoverished citizens with a further term of years of increased deterioration and unremoved dirt. The whole process becomes increasingly expensive and Government doles are often sought; and wasted when given.

In one district about which I was consulted, I did not at first realise that the people of this neighbourhood were all Muhammadans. Not only this but, as was shown in their pathetic, well-reasoned and convincing petition against removal, they were a group of peculiar antiquity and closeness of kinship. It astonishes me that their document was not more sympathetically considered and that arrangements have been almost concluded to destroy these old ties of attachment between place and people, this web of social solidarity, this estimable civic unit! Moreover, when I examined the draft of the 'improvement' plan I found it did not even include the main mosque of the neighbourhood, which should, of course, have been made the nucleus of the new urban village.

The principle of conservative surgery justifies itself even more clearly in Muhammadan than in Hindu quarters. Not only is it invariably a more economical method but it is also more healthy since it prevents even temporary overcrowding from occurring. Indeed, it turns out to be the best method from every aspect, the æsthetic and the homely, the moral and the religious, the civic and the historic. It is even the most politic method, for, by treating the population with this consideration, we can far more readily take them with us. True, even upon this conservative plan, we find that a certain number of families will have to be evicted. In this particular case it comes to



10 'The true meeting ground, both for the children and the elders, is the village square. This, with its well, its shade trees, its little platform and shrine, and often a small but beautiful little Temple, forms a centre for the social life of old and young that is second to none that I know of—either in the west or in the east.' *Chattursingh, Kirkee,* 1945



11 and **12** (opposite) 'The constant interest of family and kindred, neighbourhood and village, have vanished from our western "progressive" cities. The traditional Indian household contains many families grouped around the grandparents. Each community has ties without number, of antiquity and strength, of blood and faith, of caste and occupation, and, linked with these, a tradition of collective action and of generosity of the rich towards the poorer brethren.' *Srirangam, Trichinopoly, New Delhi, 1945*





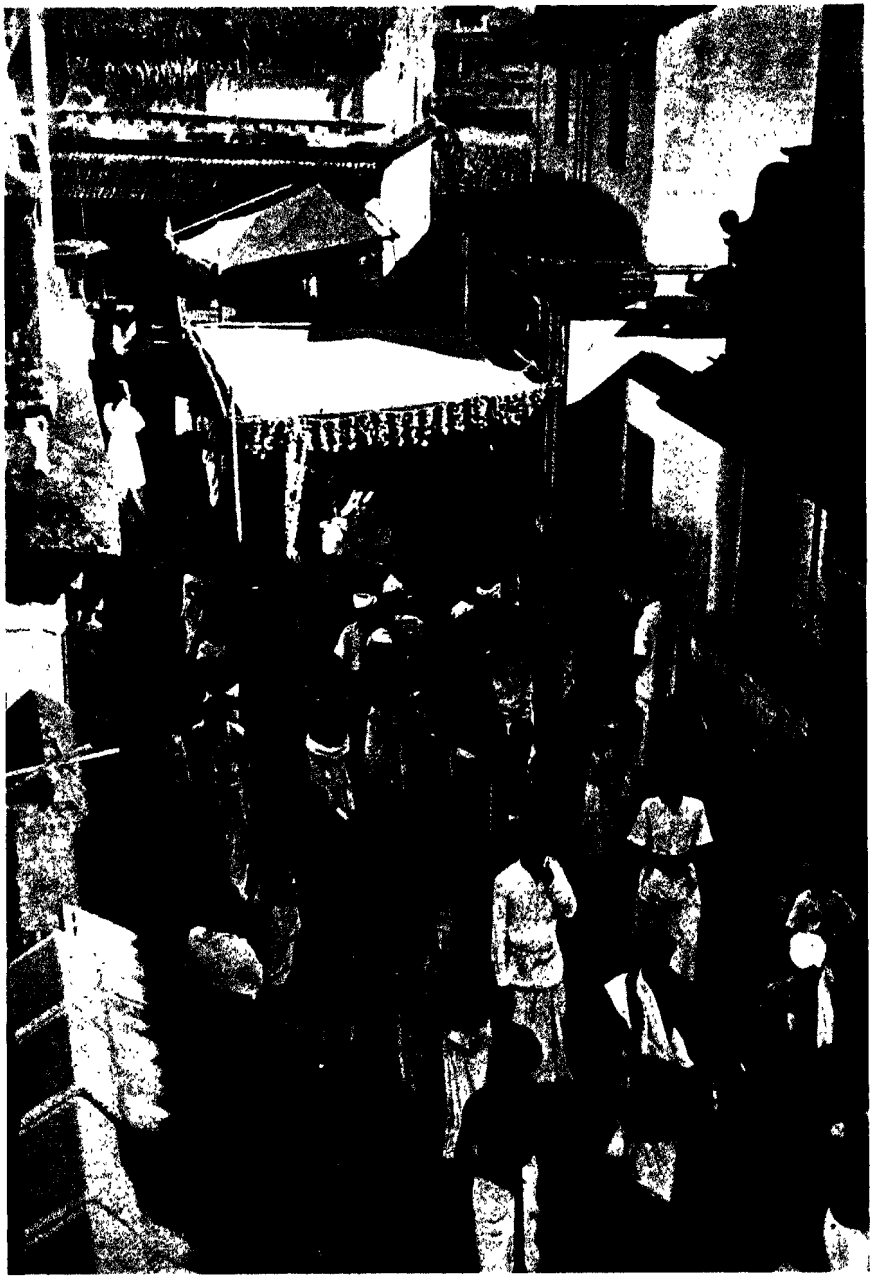


13, **14** and **15** 'The craftsman and artist at their labour, the housewife at her daily tasks, the girl watering a tulsi-plant, the sweeper on his humble round, all and each are helping their town towards its development in health and wealth.' *Sohna, Punjab,* 1945; *Gurgaon, Punjab,* 1945, *Rawalpindi, Punjab,* 1945





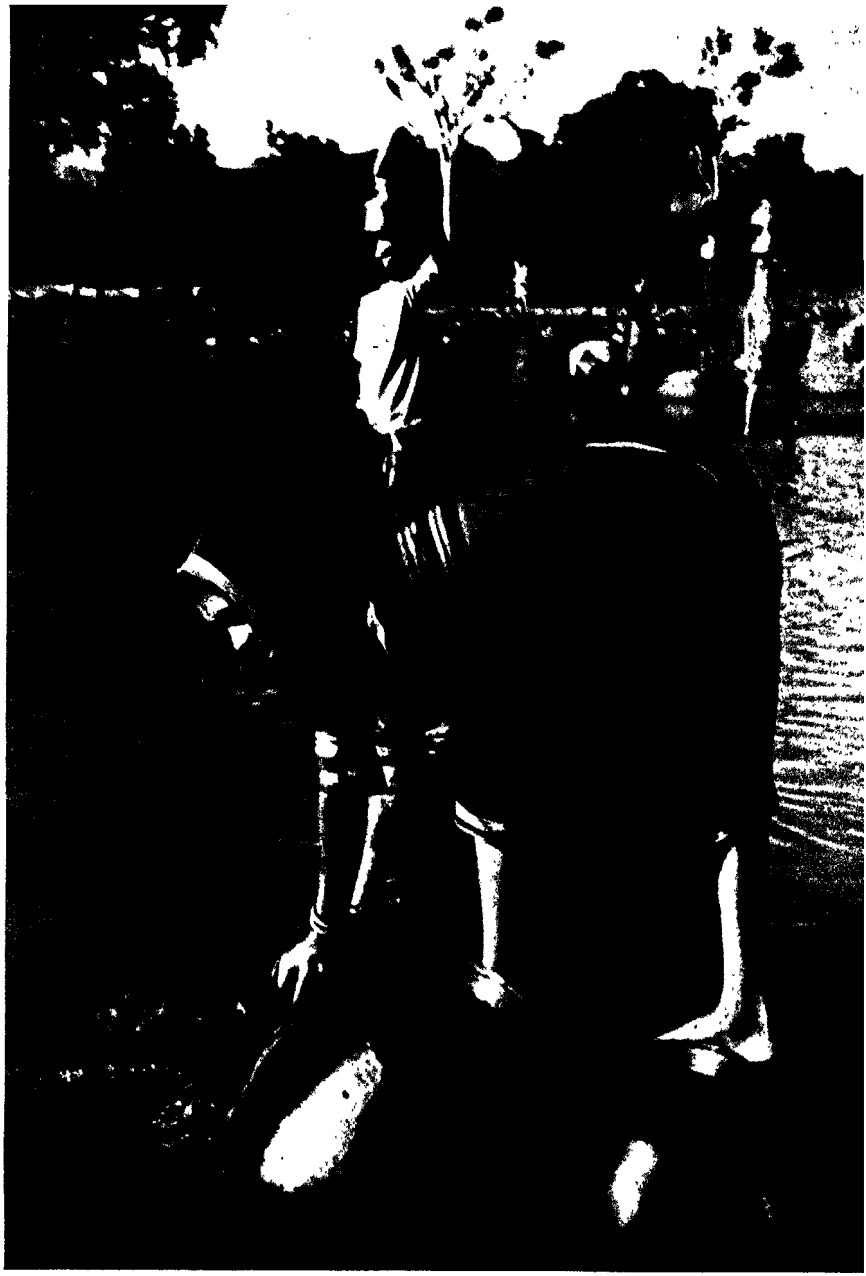
16 'Moistened fibre "tatties" hung over doors and windows cool the air but do not make it dank.' *Delhi*, 1945



17, 18 and **19** (opposite) 'In India, health and cleanliness are still approached indirectly from the standpoint of traditional religion, expressed by public festival and personal participation in ritual. If the connection between material and moral purification could again be made manifest, health and religion might once more become one, as with every priesthood of the past.' *Teppakalam, Trichinopoly, 1944; Mokkombu, Junction of Rivers Canvery and Coleroon, Madras Pres., 1944*







20 'Improvement is not achieved by vainly lamenting the past or by harshly insisting upon the needs of progress, but by simply setting to work to clear away the accumulation of miscellaneous rubbish and filth. With only moderate effort and outlay, conspicuous neglect and dilapidation may be repaired. The woman returns from the repaired well with purer water and uninfected feet, and from small beginnings, begetting delight instead of disgust, a new interest in sanitation will arise.' *Sasvad, Deccan, 1945*

eight families instead of twenty times that number. It should, however, be comparatively easy to compensate these few families sufficiently to enable them to find, or to build, homes that are better than those they have left and that are still at no great distance from their mosque. This small amount of disturbance can be faced by the commonsense of the community and even the evicted can be expected to accept the situation with goodwill, when they move into well-built houses and see the improvements that the changes have enabled to take place in their old neighbourhood.

How very different from the present state of affairs would be a city in which such active co-operation could arise spontaneously between the citizen and their town council! In such a city real sanitary and economic improvements would be freed from harsh and wasteful clearances and from the sullen resistance of the people which, at present, is a natural consequence of the increased congestion and heightened rental that in their eyes are the main results of the improvement schemes.

Planning for Health

Bibliography of Extracts

I *Town Planning towards City Development. A Report to the Durbar of Indore, 1918 (Part I, p.16).*

II *Report on the Towns in the Madras Presidency, 1915: Cocanada (p.12).*

III *Report on the Towns in the Madras Presidency, 1915: Guntur (p.67).*

IV *Town Planning in Balrampur. A Report to the Honourable the Maharaja Bahadur, 1917 (pp.36,55).*

BREADTH OF THOUGHT AND GENERAL DIRECTION are not opposed to specialised thought and detailed work. The clear thinker realises that they are complementary and mutually indispensable. Yet, in the practice of Sanitation and Public Health with its manifold applications and wide social purpose, this generalising spirit has neither been cultivated nor applied, although it is the urgent need of all cities everywhere.

Diseases are many, and each involves its special inquiries. But while diseases are many, Health is one—the unity of sound mind in sound body. Are we to go on as at present, providing as many remedies as there are diseases, and now drugging, now inoculating each other against them all? May there not be some better way?

Schools of Medicine are as yet still practically destitute of a department for co-ordinating their specialisations; a

department concerned with the study of Life in Health. From such a study we should rapidly discover a better application of the Laws of Health in our cities. Health is no Utopia. As biologists know, and as the finer civilisations have at various times magnificently shown us, Health results from living 'the good life', that is a life of normal and full reaction within an adequate environment. Such an adaptation, which has become normal to flower and tree, insect, bird and beast, has grown increasingly harder for man to attain since his social grouping has become larger and more complex (from rural village to crowded industrial city). Yet, even in our most congested cities, examples are never wholly wanting of the highest human perfection of health, vigour, and beauty, at every phase of life from infancy to age. Let medicine and public health study more closely these fine types of health and explain them rationally, instead of merely struggling with the various lapses from health which are at present so much more in evidence.

An important aid to the understanding of health and disease has long been possible in India in the course of its appalling and recurrent famines. While the predisposing cause of disease and death is one and the same—that of deficient food—the resultant diseases are wellnigh endless in their variety, since each suffering constitution is different, and each tends to give way at its weakest point. Indian famine medical returns (like the public health returns of European nations) are scientific in their specialised aspects but insufficient in their general descriptive science. The starved are thus recorded as dying of many distinct diseases, which of course are really all the results of famine though it is not considered polite to say so.

The problem of assuring city health is an ever-growing one and the time is ripe for co-ordination. The values of some degree of co-ordination are already evident in Europe, where, two generations ago, the death rate in European cities was approximately the same as the present death rate in India. Today, as a result of the co-ordination of the work of many specialists, it has been reduced by more than one half.

The lessening of the death rate in Bombay in recent years is an encouraging achievement, but the sanitarian's difficulties in India are increased by the fact that he is often in advance of his effective public. For instance, the horrible disease of Guinea Worm (which invades the tissues of feet and legs) still rages in villages within sight of Bombay although its complete extirpation has been shown by Major Liston to require nothing more than constant, simple, and inexpensive care of wells by the village people themselves. (*1918*).

Similarly, although control of the scourge of malaria has progressed from the empiric use of quinine, through knowledge of the germ and its mosquito bearer, to measures to exterminate the mosquito larvæ (or 'wrigglers') in their breeding places—the water's edge, pools and puddles—wrong measures are still used. It is still quite common to see village reservoirs which have simply been filled up with stones; whereas their banks should have been repaired and the water stocked with larva-eating fish.

The many diseases arising from impure water cannot be eliminated by the detection of their specific germ or the concoction of the right serum. The final, effective, and wholesome treatment is that of Hygiene proper in the sense used by Hippocrates in his master work 'On Air,

Water and Places'. This depends upon the degree to which we can revive the ancient respect for the purity of water in river and nullah, in pool and tank, in vessel and hand.

Such effective action cannot be brought about simply by a diffusion of scientific knowledge as too many of us still believe, since we were all trained at College and University to be intellect-idolators. Emotion is the vital spark necessary to ignite the cold potentiality of knowledge into the flame and energy of desire, will, resolution and deed. This unity of thought and feeling, by which an emotionalised idea is clearly imaged into vision and warmed to aspiration and purpose, is the essential of religion; and correspondingly ethics finds its realisation when emotion kindles thought or vision to action.*

Tuberculosis, which in our youth was spoken of as a 'hopeless decline', has now become 'one of the most curable of diseases' and there is general agreement that the most timely cure is provided by the 'Open Air Hospital'. This, in plain Indian experience, means sleeping on the verandah and sitting on the chabutra (an outdoor

* This is an allusion to Geddes's diagram:

PLACE	ACHIEVEMENT
WORK	SYNERGY
FOLK	ETHICS
Feeling	Emotion
Experience	Ideation (Thought)
Sense	Imagination (Vision)

bench), not merely a remedial visit to some distant mountain resort. But how few realise that 'the hygiene of tuberculosis' consists above all in getting everybody a verandah fit to sleep on and a chabutra to sit on?

Plague is no mysterious dispensation of malignant powers; it is the normal nemesis of the untidy slum; it is the product of the uncleanly victory of the rat over the housewife. This, of course, is not through her fault but that of our masculine inefficiency as working citizens, business men, city rulers, and state controllers. From child-apprentice and workman, to shopkeeper and barman, and from these to financier and millionaire, city councillor and chancellor, we men are hypnotized by money but have lost sight of economics—the real functioning of life, in real and energetic health, creating real and material wealth. Real wealth can only be created in a life-efficient environment. It is, therefore, primarily bound up with an advancing development of homes and gardens and secondly with due increase of all that they should contain for the maintenance and development of their inhabitants.

Ailments of a rheumatic order are partly caused by damp floors and partly by unsatisfactory nutrition. Pathologists have long been investigating the clinical results of these two causes, but we, as town planners, can remove both. We can avoid dampness by arranging for drier houses placed on more adequate sites as well as built on plinths; and we can provide for better nutrition by the creation of nearby fruit and vegetable gardens.

The many diseases of the alimentary system are mainly caused either by the insufficient diet of the poor or by the over-elaborate diet of the rich. Both can be remedied by the wholesale and domestic growing of fruit and vegetables.

Besides increasingly superseding drug medicines by fresh air, pure water, and sunlight, town planning aims at a vastly greater production of food. In the Garden City waste matter, which is only impurity and dirt while out of its rightful place, will find its natural outlet in the soil, followed by its natural transformation into renewed fertility.

Only by the execution of such positive and vitalised town planning as this can the prevalent diseases of town life be adequately cured.

It is true that prejudices exist which hinder greatly, though I have not in practice found much difference between those of the east and the west. While it is true that some 'religious prejudices', which have become 'social traditions', are hard to alter, these can often be disturbed by recalling to life the ancient tenets of each faith. It then becomes plain that the great Masters—Manu for the Hindus, Tirthankars for the Jains, Zoroaster for the Parsees, Mohammed for his Faithful—never failed to realise the need for purity of all the elements of air, water, earth and fire, and of the human body—or life—in relation to these. It is thus possible to rouse to a renewed consciousness of the vital spirit of their creed, those who continue to oppose the advance of 'public health' measures or, as is more usual, to obstruct by reason of their apathy. For 'public health' demands that cleanliness which is fundamental to all the religions.

In this context it is worth while recalling the successful outcome of the Diwali Procession at Indore in 1918. In order to achieve lasting results stimulants of a deeper psychological nature were required to support the material work of the State and Municipality. At Indore a colourful procession (*described on page 63*) was organised, using

images of ancient symbolism which expressed the difficulties and hopes of life, its besetting evils and the means of ultimate victory. Thus science, which at first sight appeared to destroy old faiths, was seen to renew and fulfil them. Every ancient discernment of the facts and possibilities of life is still as true as ever and it only needs a vital re-statement, adapted to present conditions, to regain its ancient dynamic power.

II NO MODERN EUROPEAN FESTIVAL FULLY corresponds to the New Year festival of Diwali. Our western material festival of 'spring cleaning' has ceased to be connected with Easter—the spiritual festival of renewal and inner purification—of which it was originally the outward part. If this connection between material and moral purification could again be made manifest, health and religion might once more become one, as with every priesthood of the past.

To Europeans, this conception may tend to appear Utopian, despite its historical accuracy. The European sanitationists, and their western-educated Indian colleagues often both forget that in India health and cleanliness are still approached indirectly, from the standpoint of traditional religion expressed by public festival and personal participation in ritual.

The realisation of this connection might make the New Year festival of Diwali or Pongal a name to conjure with, more potent to eastern ears than contemporary western slogans, such as 'microbes', 'rats' or 'drains'.

In other words the sanitary service fails to command respect because it appears and speaks too much in the guise of the 'sweepers'—the low and untouchable.

Were it to reconsider its approach and incorporate the idealistic as well as the materialistic cleansing of the Brahman at his best, its influence and appeal would be far more effective.

Diwali is at once the festival of spring cleaning, spiritual purification (as at Easter) and of New Year, so that the potentialities of its effective renewal are very great. In some places observance of this great festival is said to be declining, but it is probable that no old custom in India would be easier to revive because none is more naturally enjoyed and none gives greater immediate satisfaction and reward, especially to the women.

In some towns Municipal cleaning activities have been combined with this festival, but usually only those of carting and sweeping. Greater enterprise on the part of the city authorities might enable this season to be employed for draining, levelling, and removing old broken down and vacated huts, clearing old sites and so on. Even when these are nominally private property, private rights have often long lapsed; and should some former owner turn up, it would be an easy matter to compensate him elsewhere or even to re-instate him.

Here and there a few existing owners will be found who are willing to sell or exchange their properties. Thus, even though the sites acquired in this way will not be contiguous, it is of no matter; they will increase in number from year to year, and compulsory evacuations will diminish.

By means such as these the overcrowding of a village or city street may be abated at trifling cost. When a third-class railway carriage is overcrowded, we do not need to turn everybody out, much less to tear the whole seating down. By removing a very moderate percentage of the

passengers to another carriage, the remainder become comparatively comfortable, and the later removals of a few more will leave them ample space. So it is with the overcrowded area. Such methods lessen, or even avoid, the common practice of reducing the numbers of available houses by demolition, thus increasing the demand for the remainder and raising rents to the tenants' loss.

III THE PROBLEM OF THE PASSAGE OF THE sweepers is another that is closely bound up with the maintenance of public health. Where old houses are already built into continuous streets, both caste feeling and sanitary conditions concur in providing access from behind the houses by means of conservancy lanes. These, however, are often proposed as a general rule and established even for new and less crowded development.

The advocacy of such conservancy lanes dates back to the 'by-law' housing methods introduced into English industrial towns in the early nineteenth century, at the dawn of sanitary and housing legislation. The prevalent dreariness, monotony, and cramped backyards of all the later English industrial towns are, indeed, directly due to these by-laws. Later housing and town planning legislation has recognised that a greater area of garden space around the house is of incomparably greater value to health and amenity than a costly network of unnecessarily numerous streets and sanitary lanes, which become the squalid trackways of an administrative desert.

Where new houses, villas, and bungalows are to stand in their own grounds, the brief daily journey of the sweeper's cart should pass frankly along the main thoroughfare, though each house should be served by a minor side

entrance, apart from its main entrance. Would this passage be too much in the public eye? The disadvantage is well compensated for by the higher standard of cleanliness which this involves. Both commonsense and experience show that, when a whole road system is specially provided for the cartage of ordure, the system falls steadily and surely to the level of its purpose. When, however, we put the sweepers on to the main thoroughfare both their methods and their standards rise.

Conservancy lanes were first established with the best intentions in the mistaken interest of public health. They have, however, proved a failure in Europe and are no longer incorporated in town development schemes. Even where planners do design conservancy lanes these are now made sufficiently wide and attractive to serve as public footpaths for general circulation.

IV DESPITE THE MANY DIFFERENCES BETWEEN east and west I continually find the same contrasts as those with which I am familiar at home, between the antique beauty of the simple homes and sacred buildings, which are the best elements of any historic town, and the slum conditions which have in recent times invaded and immersed them. Improvement is not achieved by vainly lamenting the past or by harshly insisting upon the needs of 'progress', but by simply setting to work to clear away the accumulation of miscellaneous rubbish and filth. Thus, with moderate effort and outlay, the conspicuous neglect and dilapidation of a Temple, a well, neighbouring buildings, and a fallen house may all be cleared and the space made over to an attractive open square.

At this stage I am commonly interrupted. I am assured that 'everything has been tried' that 'things constantly relapse into disorder' that 'there is no doing anything with the people' that 'their prejudices are against improvement'. I am even told that 'they prefer dirt'. In fact I am still constantly treated as an inexperienced and Utopian youth instead of a veteran jemadar of sweepers with more than thirty years' experience of the fight against dirt in more cities than I need mention. Yet in every city or town without exception, in east and west alike, I have met the same pessimism and been told much the same story.

What is the explanation? It is always and everywhere the same. There are deep-rooted prejudices: there is obstinate adherence to untidy habits: but—I say it deliberately—the worst of all these prejudices and habits belong to the sanitarians themselves and, for the last two generations, have been reducing the effects of their admirable goodwill, their intensive science and their strenuous labours. The overflowing sanitary bucket remains their only shrine and altar; the hideous iron latrine their only temple; and their corresponding belief that individuals and cities are only to be sanitated from behind, and from below upwards, is assuredly one of the most depressing of our modern superstitions.

In saying these hard things I am not forgetful of the magnificent services of sanitarians. But, though the provision and care of latrines for an army are fundamental necessities, it is not thus that one effects the recruitment of heroic youth for war, nor thus that its spirit is maintained. This is done by flag and music and by every form of high emotional appeal, as all practical soldiers know and no

sanitarian would dare deny. So let the sanitarian no longer refuse to learn this lesson and, open minded as he is on questions of mechanics, chemistry, bacteriology and the rest, let him also give the people's psychology its hearing and trial.

Let the temple flag be hoisted, let the building be repaired and adorned, its flower garden planted or renewed. Let the well be cleansed and cemented. Let the sacred tree have its platform repaired; or if dead and gone, let a new pipal be planted, with the other trees beloved by gods and men—the pleasant Neem, the fruitful Bael, the flowering Kadam—and let them be set in corners of the little squares as space may offer.

From such small material beginnings, begetting delight instead of disgust, a new interest in sanitation would spread. The woman will say 'If this is what they call sanitation, and not merely putting sanitary buckets by our wells and offering us polluting latrines that the Engineer Sahibs will not themselves enter, then there is some good in it after all'. And, as the woman returns from the repaired well, with purer water and uninfected vessel and feet, we can again be of service to her. Let us remove that heap of earth and rubbish from outside her door, which is so plainly beyond her powers, and fill up the nearest mosquito-puddle with it. She may next allow our inspector to criticise gently the heap of broken brickbats within the compound, which her husband has been saving these seven years for something he will never build. Let it be bought if need be—two or three annas may pay for a cart-load, for the material is probably by now almost worthless—and let it be used to mend the holes in the lane until the time comes when it can be paved.

Space has now been cleared and the compound looks bigger as well as better. There is even room for a plantain or, perhaps, a plum tree, a guava or a papaya, which it will be a pleasure for her to water.

When the home is thus brightened, as well as the public places and the sacred centre, and the ways between them have been cleared of holes and puddles, sanitary improvement has in reality begun.

THE MANY VALUES OF THE VILLAGE RESERVOIRS or 'tanks' are seldom appreciated by sanitarians or those in administrative positions. Much could be said of their value during the long dry season in maintaining the water level both in wells and in the soil. A town rich in these reservoirs, and sloping towards them, is assured against flooding by rain-bursts. Sudden floods often overflow insufficient drains and storm water channels and destroy properties in lower areas of towns where storage tanks, such as would have been constructed by old-fashioned Indian engineers, would have prevented inundation.

The cooling value of reservoirs has an appreciable influence on health and comfort, often forgotten by those who live in 'civil stations' outside the town, with lofty rooms, shady verandahs and spacious gardens. In India the cooling air from the reservoirs does not become the moist heat of more relaxing climates. It has the same effect as the moistened fibre 'tatties' that are hung over doors and windows, providing just enough moisture to cool the air but not really to moisten it. The cooled air flowing from the reservoirs is naturally heavier than the hot air rising from the town. It, therefore, flows through the

streets, especially if these are shaded by trees, and appreciably reduces the temperature of the area.

How is it then that these advantages are not appreciated by responsible European and Indian officials and citizens or even by sanitarians and engineers? Partly because they have seldom paused to think them out, but mainly for two very impressive reasons.

The first is that the magnificent discovery by Ronald Ross of the malaria-bearing role of mosquitoes demands, of course, that these should be destroyed. No pool or puddle is too small, no reservoir or marsh too large, to serve as their breeding-place. The first results from the wholesale filling up of puddles were so conspicuous that sanitarians started to fill up the tank reservoirs and, where these had become breeding grounds through neglect, the results were equally striking. For instance I was shown a place recently where the spleen rate for children had been reduced from 79 per cent. to 9 per cent. by the elimination of tanks in which the Anopheles mosquito had been breeding.

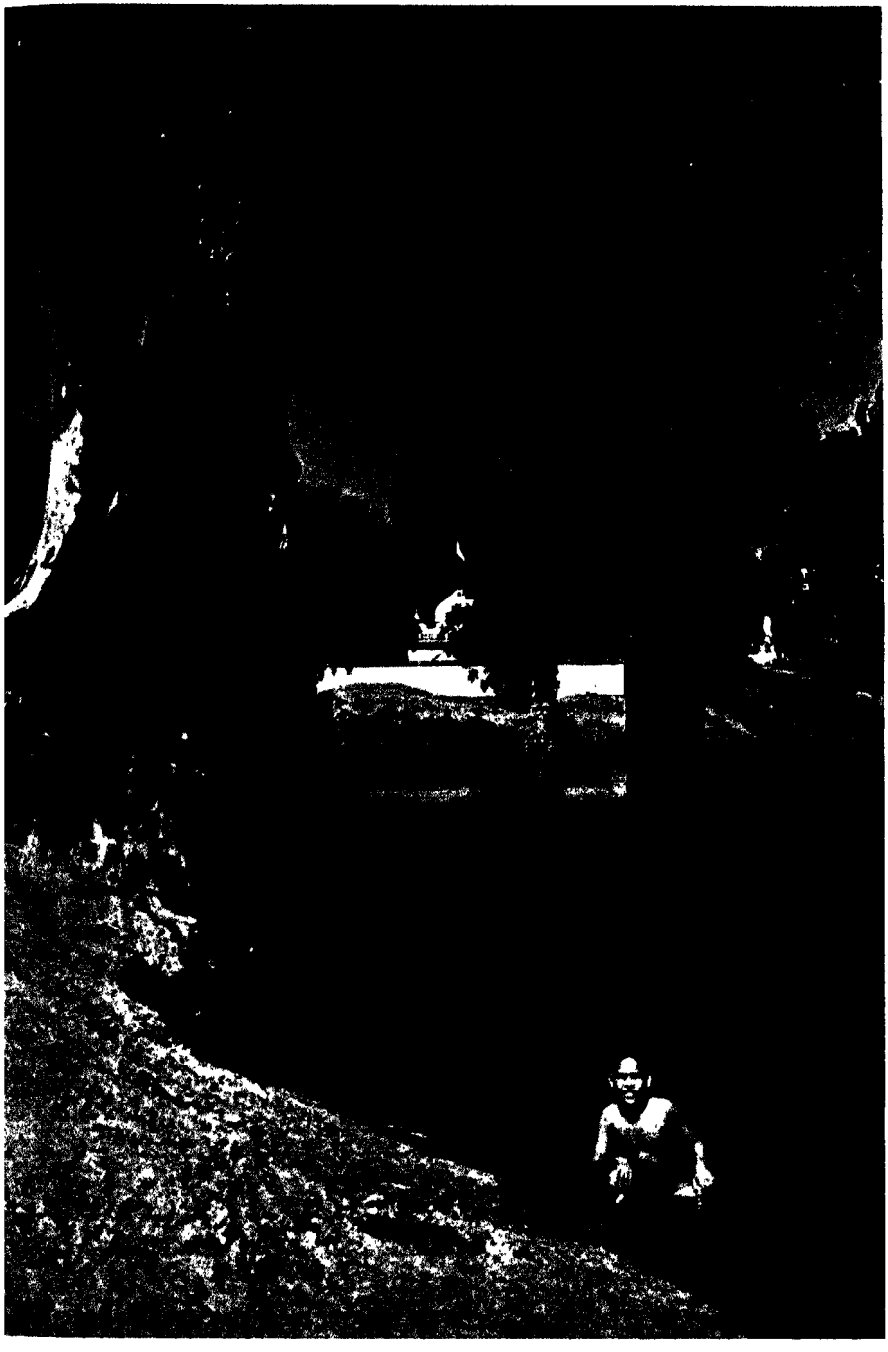
The second reason is the lesson of the Panama Canal. Although the prolonged delays caused by fevers had brought the French enterprise to ruin, Colonel Gorgia's elimination of the mosquitoes by kerosening their breeding areas enabled the American engineers to complete the work swiftly and efficiently.

There is no wonder then that responsible members of the public and many technicians are alarmed when I advocate the preservation of tanks and reservoirs. Their first impression must be that I am an impractical æsthete or a perverse sentimentalist, ignorant of the advances of science! On the contrary, my training and experience as

a naturalist have been even more concerned with water than with land. I was investigating and writing about bacteria forty years ago and about the same time (1878) I began enquiring into tropical malaria. Over twenty years ago I was paraffining tanks and cisterns in Cyprus, much as the sanitarians are now doing in India. I, therefore, do not fear the criticism of either Municipal or Government authorities when I deliver the most definite challenge to sanitarians and engineers in India concerning tank conservation.

While I entirely concur with the authorities in filling up all small pools and puddles, the treatment I propose for the tanks and reservoirs is to clean them thoroughly and then stock them with sufficient fish and duck to keep down the Anopheles. Our trained tank surveyors will be no less careful and trustworthy than others that the authorities provide. Critics will certainly point out that the Anopheles readily reappear and that we cannot guarantee that the tanks and reservoirs will not again fall into neglect. Too true, we can assure no final cure. It is as with a disinfected house: it may again become infected. Hence the only sure protection would be to pull it down, with all other similar houses! By such too simple reasoning tanks are all too readily destroyed. Obviously tanks are not so necessary as houses—for which even the most ardent sanitarian will continue to take a few risks—yet their values justify their care and preservation.

Finance must next be considered. When both sanitarians and engineers agree upon the need for certain expenditure, then both municipal and Government authorities, though nominally their masters, have little option but to 'obey their experts'. The public have accordingly to pay,



21 'The cooling value of tanks and reservoirs has an appreciable influence on health and comfort, often forgotten by those who live in "civil stations" outside the town.'

Gurgaon, Punjab, 1945



22 'The virtues of the many village reservoirs or tanks are seldom appreciated by those in administrative positions, who consider them only as breeding places for the malarial mosquito and frequently recommend that they should be filled up with stones.' *A village in Bengal*, 1942

23 'Tank sweeping is as necessary as street sweeping or house sweeping, and it is the lapse of this care that has brought the tanks into disgrace. The sweeping of tanks has the advantage that it is a dust-free and even attractive form of labour.' *Howrah, Bengal*, 1943





24 'Clearing out the silted up tanks is a serious annual expense to the municipality. Planting the banks with trees would greatly reduce this expense as the tree roots hold the soil from being washed down by the rain.' *Dakineswar, Bengal,* 1943

25 'The treatment I propose for the tanks and reservoirs is to clean them thoroughly and then stock them with sufficient fish and duck to keep down the mosquito larvæ.' *Kalighat, Calcutta,* 1943

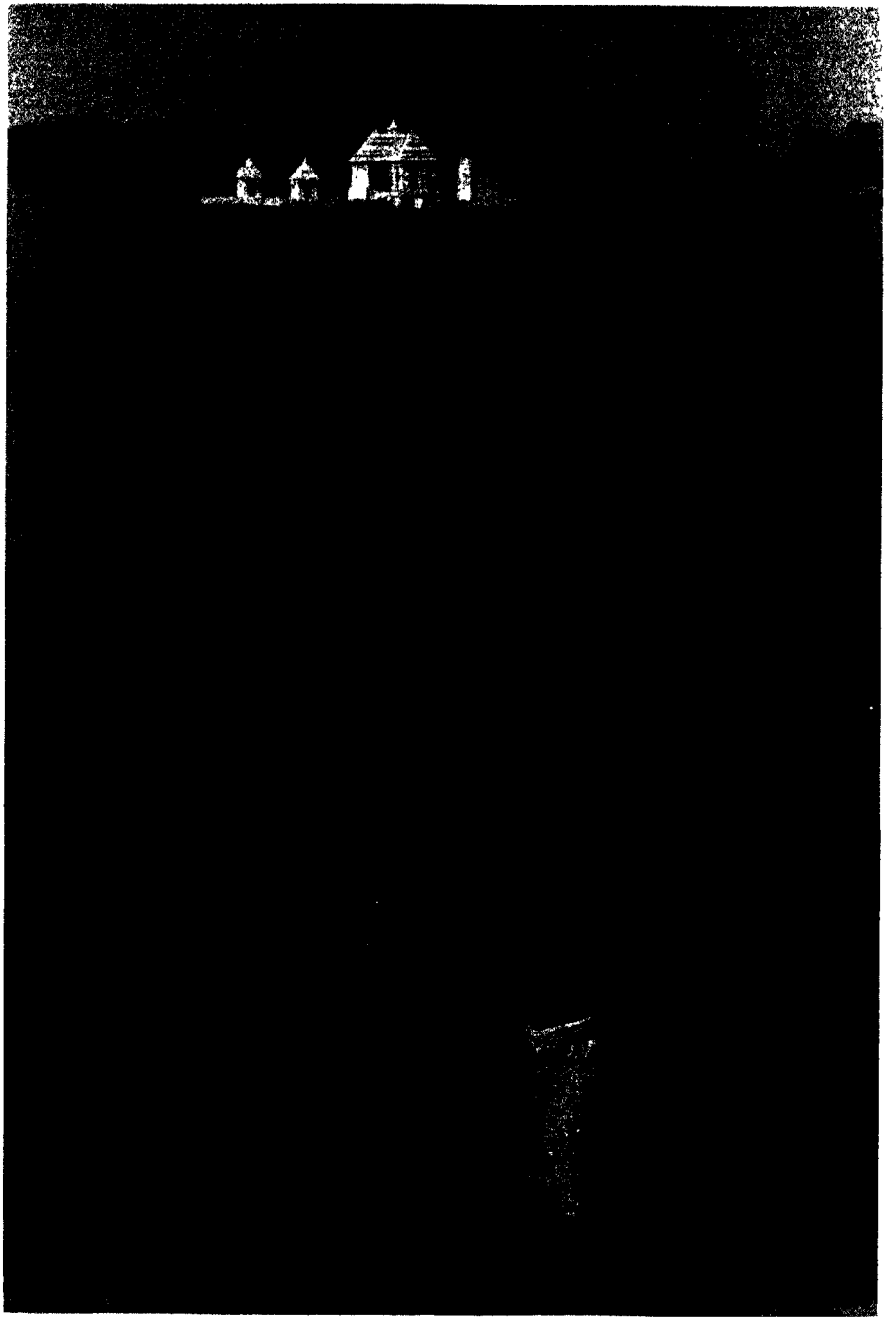


26 'No pool or puddle is too small, no reservoir or marsh too large, to serve as a breeding place for mosquitoes, and I concur entirely with the authorities in filling up all small pools and puddles.'
Chaklala, near Rawalpindi, Punjab, 1942

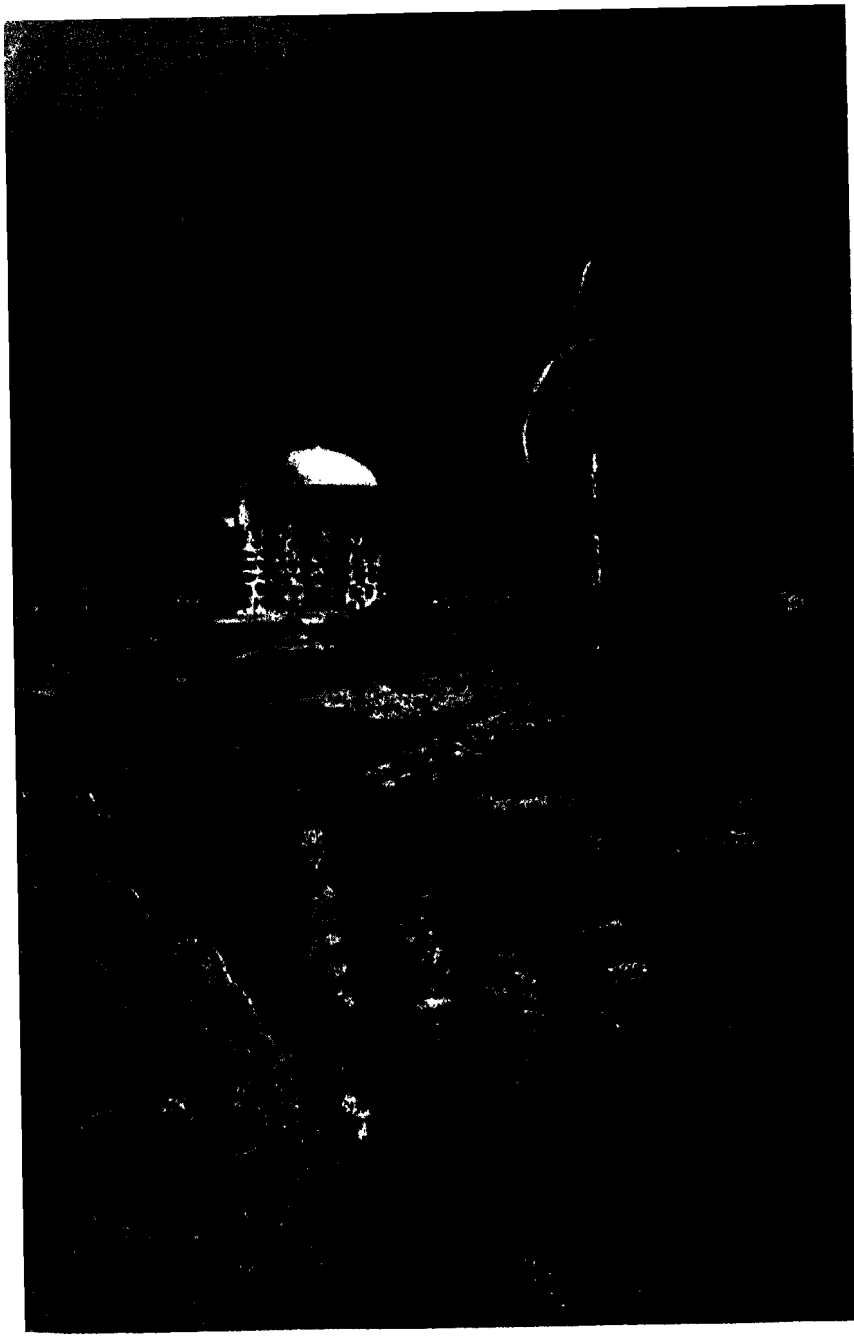
27 'I have found a considerable acreage that is at present a desert invaded by the abominable prickly pear. These areas could be improved by planting fuel trees such as the thorny acacia, and suitable fruit trees could be planted upon the better soils.'
Rawalpindi, Punjab, 1942







28 'The ancient tenets of each faith never failed to realise the need for purity of all the elements of air, water, earth and fire, and of the human body in relation to these. It may thus be possible to rouse those who oppose measures of "public health" to a renewed consciousness of the vital spirit of their creed.' *Bhubaneswar, Orissa, 1944*



29 'The poverty and instability of India is deeply associated with her employment of animal manure as fuel. As soon as this is realised, the provision of fuel trees becomes a crying national need.'

Man village, near Poona, Bombay Pres., 1944



30 'An enormous proportion of the diseases of India would disappear if there were a substantial increase of fresh vegetables and fruit in the diet. We can provide for better nutrition by the increase of fruit and vegetable gardens on the outskirts of the towns, where waste matter will find its natural outlet in the soil.' *Jessore, Bengal,* 1943



31 'Everywhere we see women toiling and sweeping, each struggling to maintain her poor little home and garden patch above the distressingly low level of municipal paving and draining in the quarter.' *Pet Narayan village, near Poona, Bombay Pres., 1944*



32 'Diwali is at once the festival of material "spring cleaning", spiritual purification and the New Year. It thus provides an opportunity for an enterprising municipality to carry out many improvements to the town.' *Trichinopoly, Madras Pres.*, 1945

immense though the demands may be. As a private practitioner I am dependent not on status or authority but only upon such efficiency and economy as can be justified and proven; and I venture to remind all concerned that the sweeping methods of Panama applied throughout India would consume more than the total revenue of the Government. On the other hand cleansing of tanks costs but a fraction of the cost of filling them—say from 1 per cent. up to 5 per cent. in the case of long neglected ones. This means that, given equal grants, the amount that the sanitarian requires for destroying one tank would enable us to clean twenty or more. Even if we grant that the reduction in the number of cases of fever might not be as spectacular in the immediate vicinity of a tank that had been cleansed as of one that had been totally destroyed, yet the aggregate result over the neighbourhoods of some twenty tanks would be vastly greater.

There is one further argument that should appeal to ardent sanitarians and engineers who are disappointed at the slowness with which Sir Ronald Ross's methods are being applied (although they have seldom fully realised the financial difficulty and even impracticability of their schemes). As an old Edinburgh man, I vividly recall the struggles to get 'that Scotch fad' of antiseptic surgery established in London and elsewhere, or even among senior authorities in Edinburgh. However, after antiseptics had at length gained the day, their use became refined, beyond Lister's initial methods, into aseptic surgery. This new advance had again a struggle to justify itself in a world that rightly honoured Lister, yet now used his example to delay further progress. This story of Lister is to some extent analogous to that of Sir Ronald Ross. With all

respect to his followers, there is a growing knowledge of the seasonal struggles of the varied plant and animal life of tanks and pools—of their flowering plants, algæ and bacteria, their birds and fishes, insects and crustaceans and animalcules. This fresh knowledge is giving us a far more definite control over them. The relatively advanced step of cleaning and stocking the tanks that I have already advocated is but the first on the path of new methods which are still more efficient, conservative, economical and remunerative.

Critics may still, quite fairly, enquire how the care of the tanks can be efficiently maintained. The answer, as for cleansing of all sorts, is by regular care. Tank sweeping is as necessary as street sweeping or house sweeping, and it is the lapse of this care that has brought the tanks into disgrace. The sweeping of tanks has the advantage that it is a dust-free and even attractive form of labour. In Baroda, where the Great Tank was rescued from costly destruction and cleansed, a boat is kept which perambulates the tank as required, with one man to row and another, armed with a hook and bamboo-handled spoon-net, to fish out floating matter. This they take great pride in doing, even to the last fallen leaf. As a result the public are surprised and gratified by the sudden and conspicuous change of their tank from a fetid pond which was a civic disgrace to a pure lake which is now the chief ornament of their city. Consequently they have ceased to pollute it and are henceforward on the side of its custodians.

We shall still be told that 'tanks turn green and horrible'. This is true, when they are defiled. And yet, contrary to popular impression, no green water plant is in itself noxious: it is the harmless and even the healthy

index of nature's method of absorbing excessive manurial matter and applying it to plant growth. The green covering in itself is not a polluting but a purifying agent. Nevertheless, it affords harbourage for mosquito larvæ and must, therefore, be cleared away. This can easily be done by trailing a rope with a foot or so of netting across the surface of the tank. The rope is buoyed with a row of corks, the net weighted by a row of buckshot. Two men can sweep the floating weed towards a corner whence it can easily be raked into a large basket. Here the weed first drains then rapidly dries into a heap of small bulk but great manurial value.

But the mosquito larvæ will dive! Certainly—many of them into the jaws of little fishes. The essential process is, however, not to catch the larvæ but to reduce their habitat, their food supply and their means of concealment from their natural enemies, the fish and ducks.

But some larvæ will still linger in the neglected vegetation along the banks! Certainly—but the tank guardian is there to keep these trim and tidy. Once the tank has been cleansed and the sides properly sloped and repaired, it is not difficult for him to maintain it in good condition, and to cut down those water plants that, in neglected tanks, form tangles that shelter the mosquito larvæ.

Open Spaces and Trees

Bibliography of Extracts

I *Town Planning in Balrampur. A Report to the Honourable the Maharaja Bahadur, 1917 (p.33).*

II *Town Planning in Lucknow. A Second Report to the Municipal Council, 1917 (p.4).*

III *Report on the Towns in the Madras Presidency, 1915: Coimbatore (p.74).*

IV *Town Planning in Lucknow. A Report to the Municipal Council, 1916 (p.60).*

V *Report on the Towns in the Madras Presidency, 1915: Trichinopoly (p.53).*

VI *Report on the Towns in the Madras Presidency, 1915: Cocanada (p.10).*

VII *Town Planning in Lucknow. A Report to the Municipal Council, 1916 (p.67).*

I EVEN IN EUROPEAN CITIES, BUT FAR MORE obviously in Indian ones, the townsfolk are still very largely villagers. They are not really at home in the street. Their true meeting ground—both for the children and the elders—is the village square. This social life of old and young in village squares, each with its well, its shade trees, its little platform and shrine and often a small but beautiful little temple, make up village centres that are second to none that I know of—either in the west or in the east.

If we plan within the town, keeping this village life fully in view, we shall diminish that deterioration of the villager that is a main cause of the decline and degeneration of life in cities everywhere. In India, a leader in the struggle against tuberculosis, Dr. Matha, insists that this and kindred diseases cannot be explained merely by the presence of this or that germ, any more than vices and crimes are explained merely by the presence of this or that temptation. Such evils are associated with the general decay of social life from its old rural standards and with the consequent weakening of the individual in physique, in character, and in powers of resistance.

II THE REDUCTION OF CONGESTION IS THE most common and plausible excuse for the creation of new wide thoroughfares. The best way in which congestion can actually be reduced is by the creation of open spaces. Whereas the new street will only too readily destroy any remaining social character within an area, the new open space will do much towards renewing the values of village social life. The creation of open spaces is a method which survives the tests of economy by utilizing sites that are already vacant or by clearing away ruinous, dilapidated, or insanitary dwellings. In this way, congestion may be reduced in a whole city quarter at the cost of a single new thoroughfare. A chain or network of such open spaces also provides room for vehicles to wait, thus doing away with most of the inconvenience and delay of minor traffic streets. A vigilant municipality that seizes opportunities as they arise for providing local open spaces will need no destructive lane-widening programme.

III IN ONE PARTICULAR SCHEME NO PROVISION at all is being made for gardens.' Indeed, it contains a definite provision for the exclusion of gardens, since the whole of each new site is to be covered with bricks and mortar, except for the little latrine yard that the by-laws require to be kept open. I suspected the wisdom of the authorities responsible for this plan and accordingly set out to interrogate some of the new householders in this area. The following conversation took place: 'Why have you no garden? Would you like to have one?' 'Yes I should, but I do not know how I can get it.' 'Why should you not buy that vacant site next to your house and use that for a garden?' 'Is it possible that I should get it?' 'Why not ask the Municipality for it at any rate?' 'Would any others of you like gardens?' 'Yes, we would'—and there are many of these others. 'Well, how much would you be able to pay for a garden? Would you pay the price of the site?' 'How much was that?' 'Seventy rupees was the price of the site.' 'Yes we would pay that.'

All this was very interesting to a garden-maker and by now a little crowd was gathering. 'How many of you here would like a garden?' 'Everyone, provided we had the means of holding it.' 'Well, how many householders are there here?' There were eight, and six of them say they would be willing to pay as much as seventy rupees. Another who has not so much ready money, says he would pay by instalments at low interest, or, if possible, at no interest! The last says he cannot pay so much. 'Would you be willing to pay a rent?' 'Yes.' 'How much?' 'Up to as much as eight annas a month for a good little garden.'

Now, without expecting all these men to stand by what they have said when they have thought it over, especially

as they will then realise how expensive such a small garden would be at this high price (for I purposely named a high price to keep down undue enthusiasm), it is clear that they are keenly interested. This was further evidenced by the shrewdness of the string of questions they afterwards put to me. 'Will the Municipal Council turn us out of the garden when they find someone who will take it to build a house?' 'If so will they compensate us?' 'Will they increase the rent of the gardens if we improve them?' 'Shall we have a permanent tenure, like that of our new house?' One man, who says he has not the means to purchase, nor pay instalments, nor even pay a weekly rent, says 'If a garden were put in order and planted with plantains and coco-nuts and a mud wall built round it, then I could pay the rent out of the produce.' 'How much would it cost to put a garden in order in this way?' 'About ten rupees.' Here, surely, is an excellent investment for a wise Council, a helpful Government or a Housing Bank.

I promised to submit the wishes of these people to the Town Council and to ask for gardens to be allocated as near as possible to the house sites. In the meantime I asked the people to be preparing to purchase, rent-purchase, or rent them as might be arranged.

Why should gardens be excluded from new plans? Even in those overcrowded areas that municipalities have somewhat too lightly been destroying, little gardens often abound. Is their omission from new plans due to a blind importation of those by-law methods which have standardised the dreariest centres of British industrialism? With the advance of town planning English cities are now preparing very different plans from these.

Indeed, whether the city be in India or in Ireland, the problems remain the same. Despite certain differences in the degree of poverty or of overcrowding the explanations of them are the same—the depression and deterioration of a peasant people deprived of their old contacts with mother earth. If this is so, health and prosperity cannot be restored by herding them into these mean streets of standardised houses bounded by conservancy lanes. It can only come by again evoking the constructive powers of the people themselves; first in the building of their own homes in a real, though urban, village plan; second in the care of their own gardens, which should be provided as freely as possible.

The problem is simpler than it sometimes appears. In these old towns undeniable overcrowding exists, in crooked narrow old lanes. It is no solution to remove the people into even more monotonous streets where the overcrowding is sometimes even greater, as in the new house spaces are often smaller than before. Instead, the old lanes should be widened here and there, as occasion offers, into homely little thoroughfares, opening now and then into pleasant squares containing a tree and a shrine. The comparatively few displaced people should be helped to acquire new and better houses with bigger gardens than before.

One is often asked, sometimes with sympathy, sometimes with a sneer, 'How can this pay?' This question, though coming strangely from authors or approvers of costly and unremunerative methods of would-be city improvement schemes, can easily be answered. First, the effect of the better town planning will increase the value of the housing sites; second, by using the help of the Housing Bank; third, the employment of local labour,

wherever possible, which will substantially lessen the present almost prohibitive expenses of construction. Finally, the dwelling space will have been greatly improved and the wasteful expenses of costly roads will have been avoided.

A garden costs little. In three years at the most, its trees and fruits will repay the small extra cost of watering and will yield a profit in terms of the improved diet and health of the townspeople, even in those cases where no produce is actually sold. A garden is the very best of Savings Banks for, in return for deposits of time and strength, otherwise largely wasted, the worker reaps health for himself and his children in air, in vegetables and in fruit. Moreover, a garden provides an outlet not only for domestic water but for other organic waste matter, which provides such a problem and an expense in every large town.

IV ONE OF THE PARTS OF A CITY SURVEY that can easily be undertaken by any interested and intelligent person of active habits is to mark on a map those vacant plots of land that are used for cultivation. It will be noted that this richly manured waste land yields most excellent crops. This survey should be followed by one adding in the vacant areas that might, by a little clearing, be brought into cultivation either as gardens, market gardens, or for field crops.

In conducting such a survey in this area I have found a considerable acreage that is at present a desert. This is not only useless and unproductive but positively mischievous, since its sun-baked surface raises the temperature of the whole town and yields unnumbered tons of dust. Much of

this could be transformed into wealth producing, cooling, and dust collecting areas, but some desert areas would still remain. These at present are, at best, dotted with thorn, poppies and other weeds and are sometimes invaded by the abominable prickly pear, forming areas which cannot be economically levelled or cultivated. Such areas could be improved by planting fuel trees, such as the thorny acacia, upon tracts of poor soil; damp loving trees by the banks of streams, tanks, and reservoirs; and suitable fruit trees upon the better soils.

Clearing out the silted up nullas (storm channels) each year is a serious annual expense to the municipality. Planting the banks with trees would greatly reduce this expense, as the tree roots will hold the soil from being washed down by the rain.

The excessive alterations of temperature in the city would also be lessened by a generous substitution of garden, field, and forest for the present spreading acres of desert. In addition, the substantial increments of vegetables, fruits, and fuel would appreciably raise the standard of living of the people.

The last point is of no little importance, as the surest way to diminish the heavy deathrate and increase the short expectation of life of the Indian people is to improve the quantity and quality of their food. As a life-long teacher in the Faculty of Medicine, I insist that an enormous proportion of the diseases of children—and of men and women—would disappear if there were a substantial increase of fresh vegetables and fruit in their diet. Further, everyone knows that the most destructive of the diseases of India are diseases of the alimentary canal and that these diseases are communicated in two ways, by dust and by polluted

water. These planting proposals would greatly diminish both the dispersal of dust and the pollution of water.

The daily evacuations of every crowded Indian community constitute the main menace to its health and are well nigh the despair of the sanitarians, despite all that is done by the crude and costly methods of the old world sweeper or by the still more costly methods of modern drainage schemes. Now, since a large proportion of the community do not and will not use latrines, but insist on communing with nature after the manner of the ancients, how much healthier to have their daily contributions absorbed by cultivated land, as in the ordinary rural village, than left to dry and fly as dust over who knows how many square miles. The pollution of the nullas and of the tanks or reservoirs into which they flow is one of the main causes of the discredit into which the tanks have fallen in so many Indian cities.

No fact is more frequently forgotten in India than that the wealth and permanence of China depend profoundly upon its economical use of manure, and in especial of human manurial wastes, whereas the poverty and instability of India are deeply associated with her wholesale waste of human manurial matter and her employment of animal manure as fuel.

As soon as this is realised, the provision of fuel trees becomes not merely a local suggestion of economy but a crying national need.

It is the disaster of India that her great religious systems were formulated before the realisation of the significance of manure; while it is the strength of China and of ancient Rome that their religious systems fully and frankly appreciated and even idealised the manurial process. The Romans

went so far as to create a special God of manure and manuring, and thereby very greatly aided their agriculturalists.

V OF COURSE I MAKE NO PRETENSIONS to a grasp of drainage questions. Yet I venture to doubt whether the very great cost of the customary method of establishing a complete new system of waterborne sanitation entirely independent of any existing system of irrigation channels is as needful or as beneficial as is assumed.

In some other countries, it is the custom, and indeed the duty, of representatives of the various departments of the town to meet periodically for the express purpose of discussing the town plan and collaborating in its improvement.

If this were the case here I feel certain that it would occasionally prove possible to break up the costly and magnificent drainage schemes into useful and manageable portions. Instead of drowning one inadequate sewage farm in unspeakable fœtor, as too often happens, it would be possible to improve the fertilizing value of innumerable minor irrigation channels and so create a wealth of gardens.

In this connection I would wish to plead against the stereotyped rows of dwellings for sweepers. These good people, at least, are free from that excessive horror of manure which involves its wholesale waste throughout India. If they were given small gardens and a very little initial guidance and encouragement, they would soon enrich and improve their environment and set a much needed example to the rest of the community.

The result would be that gradually, here and there, some citizens would be sufficiently unconventional to encourage the sweepers to lighten his labours by fertilizing their

gardens. From a few such cases gardening and sanitation would proceed together.

The organic point of view is gradually gaining upon the mechanical one, and re-appearing at many points throughout the world, and more intensive gardening is becoming realised to be the most sanitary, as well as the most natural, method of disposing of organic refuse everywhere, from China to France, from Scotland to India.

VI IT IS CURIOUS THAT OUR EXCELLENT AND ardent sanitationists, with all their concentration upon the material process of evacuation, neglect the supply of fruit, which is probably the main recourse provided by nature for regularizing and normalizing the whole alimentary system. The world's literature is permeated by the theory that all kinds of disease originate through auto-intoxication, by the absorption of unwholesome elements or toxins from the bowels. Yet the physicians, who are disputing the efficiency of the strangest drugs, the weirdest treatments and the most heroic operations, overlook in each country the simple and delicious remedies provided from time immemorial by nature and her gardeners. In the cooler north 'the apple of knowledge' with its brain-clearing proof of wholesomeness is being rediscovered and further south 'the olive of wisdom' with even subtler digestive and mental values. The healthy Arab has never lost his allegiance to the date, but with India it is a real reproach to all her races and castes that her fruit resources are still so far from being improved, developed, and distributed as they deserve.

Why not give to every village a new individuality, beauty, health, and wealth by planting avenues of fruit trees

(as is so largely the custom in Continental Europe) and giving each household plot a group of fruit trees with its garden? The garden suburb is good, but how much better is the orchard village!

The cost of watering is, of course, raised as an objection, but one should not forget that, after three or four years at most, the trees, under normal conditions, need little or no watering. Further, many orchard trees yield higher returns than farm crops and cost considerably less for watering and other labour, so that the small increase in initial outlay is sound economy.*

VII THE COST OF TREE PLANTING IS A frequent objection. This can be mitigated by the establishment of a municipal tree nursery on one of the many available sites of good cultivated, or cultivatable, land that are at present unoccupied.

Good large pits for the trees, containing good soil enriched with road sweepings; careful watering for two or three years; the selection of a good foreman, interested in his work; these are the requisites of success.

Everyone appreciates shade, but few realise how great a secondary service is performed by a tree in absorbing not only the radiant heat and light from the sun but also from the buildings and road surfaces all around it.

Trees grow dusty, but dust-catching is also useful. Better dust upon the leaves of the trees than in the lungs of the citizens. A periodic wash from the street watering hose and from fire-brigade drill is, however, very desirable,

* In Lucknow it was found effective and economical to bury a large, unglazed waterpot by the roots of each tree and to fill it with water. The slow seeping of the water then proved sufficient for growth. A.G.

both in order to renew the beauty of the trees and to promote their health.

The judicious planting of trees may also increase breezes instead of impeding them. Currents of air flow, as in a stream, faster and stronger round the side of obstacles. By planting a dense mass of foliage we can increase the breeze on either side of it and even a little way beyond it, for the air flows in rolling waves over the obstacles as well as in swift currents around each side.

Maharajah for a Day

QUOTED FROM 'PATRICK GEDDES' BY PHILIP Boardman, published by the University of North Carolina Press, 1944, pages 386-390:

The sight of Europeans prowling about with maps always made the Indians fearful of what demolition might soon strike their homes or neighbourhood; yet the presence of the bearded Scotsman with his face marked by overwork and recent sorrows spread near-terror among the townspeople. Geddes asked his native assistant why everyone pointed at him with scowling faces and what they were saying.

'Oh, nothing, nothing!'

'Pray tell me?'

There was no answer.

'My dear fellow, I insist,' said Geddes, 'Please translate!'

'Well, if you must have it, sir, they are saying: "That's the old Sahib that brings the plague".'

What Geddes did to overcome this opposition and to accomplish his purpose would provide the substance for a colourful and dramatic moving-picture. That very afternoon he went to the ruling prince of Indore, paid his respects and requested, 'Make me Maharajah for a day!' When the head of the Holkar dynasty understood the motive for this strange request, he gave his assent without hesitation. Thus armed with princely authority and with the enthusiastic help of Indore's mayor, the Scottish Sahib planned a campaign of reconstruction in a manner worthy of an able general.

He caused the news to be spread throughout the city that a new kind of pageant and festival would be given on next Diwali day, Diwali being an important holiday representing several great occasions: a day of harvest, the New Year's day of one sacred calendar, a day commemorating the slaying of a fearsome giant by Rama. 'And most appropriate of all, for my purpose,' Maharajah Geddes related, 'Diwali is the signal for that strange and terrible domestic cataclysm, that annual insurrection of the woman from which all men can but flee, and which is as well known in west as east. In the west it is called "spring house-cleaning".'

Following up the announcement that the new festive procession would not follow either the traditional Hindu or the Moslem route through the city, but instead the one along which the most houses had been cleaned and repaired, Geddes and the mayor enlisted the aid of each priest by having the roads outside the temples cleaned and mended and trees planted around them. Free removal of rubbish was advertised far and wide, and in the weeks of preparation for 'Geddes Day' over six thousand loads were carted away from houses and courtyards, 'with much inconvenience to the rats formerly housed therein.' These plague-spreading pests were trapped by the thousands in the city and along the river banks. Meanwhile a wave of house cleaning, painting, and repairing swept through every quarter of Indore, for each one wanted to win the honour of having the procession pass along its streets.

On the great Diwali day villagers from far and near crowded alongside the city folk to witness the pageant all had so eagerly awaited. First came the stirring spectacle

of temporal power in all its trapping and fanfare: the bands and marching infantry, the cavalry and camelry, the artillery and elephantry of Indore State, followed by a series of beautiful led horses, richly caparisoned, from the real Maharajah's vast stables. Everything that came after, however, was the creation of Geddes, 'Maharajah for a day.' Agriculture and the harvest were portrayed by chariots carrying the Sun-god, the Rain, and so on; elephants laden with cotton-bags and carrying merchants in silver howdahs on their backs signified the importance of cotton to Indore. Climaxing this section of the parade was Lakshmi, the goddess of prosperity, on the dazzling white elephant of her legend. Here Geddes had encountered some difficulty, for the nearest white elephants belonged to the King of Siam—and even his were only light pink. But an idea inevitably struck Geddes. 'With a little persuasion,' he reported, 'we were able to give this mount two coats of whitewash, from trunk to tail. What snowy brilliance in the sunshine—a paragon of a white elephant, such as neither king nor goddess had ever ridden before!'

After the gaiety of harvest, came a dismal change of scene and tone. There appeared, to use the new Maharajah's description, 'melancholy, wailing, and discordant instruments; weird figures, as tigers, as demons, as diseases—the latter breaking jointed, bacilli-like twigs and casting them at the crowd. Types too of poverty and misery as well as wretched disease-sufferers; and among and after these came sinister swordsmen, barbarous raiders, threatening with dagger or with lance; in short the ugly aspects of war. Next followed models of slum-dwellings, well-caricatured with their crumbling

walls and staggering roofs, broken windows and general air of misery and dirt. Then the Giant of Rama's legend, but here presented as the Giant of Dirt—a formidable figure some twelve feet high . . . Then, following him, the Rat of Plague, also made by clever and skilful craftsmen: a good six feet long, this rodent, and quivering all over with the rat-fleas which carry plague; fleas here similarly magnified by use of locusts dipped in ink and mounted on quivering wires. Nor did we forget huge model mosquitoes for malaria.

'Again a brief break after all these instructive horrors. Then cheerful music, heading the long line of four hundred sweepers of the town, two abreast, all in spotless white raiment, with new brooms, flower-garlanded. Their carts were all fresh-painted, red and blue, and their big beautiful white oxen were not only well-groomed and bright-harnessed for the occasion but had black polished hoofs, blue bead necklaces and golden flower garlands, with their great horns gilded and vermilioned by turns. Every sweeper too was wearing a new turban, and of the town's colour—as were all the employees and higher officers of Indore, as well as the mayor and myself: this had been arranged with his warm approval as symbol of the democracy of civic service.'

As the sweepers began their march, Geddes warmly greeted the leader, a stately patriarch with a magnificent white beard, and took a marigold for his button-hole from the old man's broom-garland. At this a burst of cheers went down the line.

'Well done! A good idea!' cried the mayor.

'Why? What?'

'Custom would not let me do that, as a Brahmin to an Untouchable,' the mayor explained, 'but as a European you were free to. You could not have done better! You have treated them as men, as equals, and thus encouraged them more than I can tell you.'

Behind the sweepers marched a civic procession worthy of the free cities of Europe at their apogee: caste labourers, firemen, and police, officials, mayor and Maharajah Geddes; and after them, enthroned on a stately car, a new goddess evoked for the occasion: Indore City. Her banner bore on one side the city's name in illuminated letters and on the other the city-plan in large outline, with heavy red lines showing the proposed changes to be made. Following this goddess were big models of the public library, museum, theatre, and other buildings Geddes had projected; and a whole group of floats contained models of the private homes that were to replace slum dwellings. Next came cars representing all the crafts— masons, bricklayers, joiners, carvers, ironworkers, potters, etc.—on which the craftsmen busily acted out their parts. Then, winding up the whole vast procession, large drays rumbled along filled with fruit-laden banana plants and papayas, and with flowers and sacks of fruit which were tossed to the children. The Maharajah's finest and biggest orange tree had been sacrificed and went swaying through the streets scattering its burden on the way. And the last dray of all contained thousands of pots with tiny seedlings of the Tulsi plant, symbol of the well-kept Hindu home, to be distributed among the households of Indore.

During the whole afternoon this novel Diwali pageant perambulated almost every part of the city, ending at

nightfall in the public park, where the Giant of Dirt and the Rat of Plague were burned in a great bonfire. After the destruction of these enemies, a notable display of fireworks brought the day-long festival to a spectacular and heartening close.

The results of this dramatized lesson in civics were quickly apparent. A new spirit of house-pride and self-confidence spread among the people, whom generations of disease had defeated and discouraged; even the sweepers performed their humble tasks with renewed zeal. And practically all of the thousand plots laid out in a garden suburb were taken up in a short time. But, most important of all, the plague came to an end, partly through cleaning up the city, and partly because its season was over. Geddes was the leading figure in Indore. Whenever he appeared in the streets people followed him, pointed at him, talked excitedly. And this time his assistant did not hestitate to translate.

'Do you know what they are saying now? They are crying: "There's the old Sahib that's charmed away the plague!".'

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Bibliography

A Bibliography of some of the reports on Towns in India prepared by Professor Sir Patrick Geddes. Those marked * are quoted in this book.

* BALRAMPUR: Town Planning in Balrampur. A report to the Honourable the Maharaja Bahadur, 1917.

BARODA: A report on the Development and Expansion of the City of Baroda, 1916.

CALCUTTA: The Barabazaar Improvement. A report to the Corporation of Calcutta, 1919.

COLOMBO: Town Planning in Colombo. A preliminary report, 1921.

DACCA: Report on the Town of Dacca, 1916.

* INDORE: Town Planning towards City Development. A report to the Durbar of Indore, Parts I and II, 1918.

* KAPURTHALA: Town Planning in Kapurthala. A report to H.H. the Maharaja of Kapurthala, 1917.

LAHORE: Town Planning in Lahore. A report to the Municipal Council, 1917.

* LUCKNOW: Town Planning in Lucknow. Two reports to the Municipal Council, 1916 and 1917.

MADRAS: Report on the towns in the Madras Presidency, 1914–15.

	Bellary		Conjeeveram
	Bezwada	*	Guntur
*	Concanada	*	Madura
*	Coimbatore		Nellore
	Salem		Trichinopoly
*	Tanjore		Vizagapatam
	Tiruvattiswarenpet		

NAGPUR: Town Planning in Nagpur. A report to the Municipal Council, 1917.

PATIALA: Town Planning in Patiala State and City. A report to H.H. the Maharaja of Patiala, 1922.

'In addition, Patrick Geddes made reports on the following cities and towns concerning their replanning or extension in part or whole, and the total number of reports amount to some fifty:

Ahmadabad
Amoritsar (the Golden Temple)
Benares
Bombay
New Delhi (the conservation of an adjacent historic town and community).' A.G.

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